PALESTINE

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Annual Report

of the

Department of Agriculture and Forests

for the year ended 31st March, 1936

by

Mr. M. T. DAWE, O.B.E., F.L.S.
Director of Agriculture and Forests

JERUSALEM

PRICE: 100 MILS.

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OF THE

DEPARTMENT OF AGRICULTURE AND FORESTS

FOR THE

YEAR ENDED 31ST MARCH, 1936.

CONTENTS.

		Page
1.	General Review by the Director of Agriculture and Forests	5
2.	Chief Agricultural Officer's Report	19
3	Meteorological Data	46
4	Report of the Forestry Service	47
5.	Chief Veterinary Officer's Report	87
	(a) Report of the Acting Veterinary Pathologist on the Government Veterinary Laboratory	113
	(b) Report of the Manager, Stock Farm, Acre	119
	(c) Report of the Senior Poultry and Bee-Keeping Officer	124
	(d) Sheep Breeding Experiments at Government Stock Farm, Acre	133
	(e) Statistical Data	135
6.	Chief Fisheries Officer's Report	157
7.	Chief Horticultural Officer's Report	172
8.	Government Entomologist's Report	202
9.	Report of the Secretary of the General Agricultural Council	206

ANNUAL REPORT

OF THE

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FOR THE YEAR

ENDED 31ST MARCH, 1936.

SECTION I.

AGRICULTURE — GENERAL.

It is fortunately possible to describe the year ending 31st March, 1936, as having been a better one for the agricultural community than the previous year which followed three unhappy years of drought.

Yields of cereals and legumes were generally considerably above average over the greater portion of the country. There were however exceptions. On account of the failure of the late spring rains in the eastern and south-eastern areas of the Jordan Valley and owing to severe flooding of plain lands in Acre district during January and February, very poor yields were harvested. In Beersheba the crop showed excellent promise until towards the middle of March, but a complete failure of the late spring rains ruined the crop in the eastern and south-eastern regions to the extent of about 50%. There was adequate stubble grazing for village livestock during the summer months of 1935 and there was no shortage of tibben and grain for feeding livestock up to the fall of the winter rains. The latter being earlier than usual, resulted in the provision of natural green grazing early in November in most parts of the country. The hot, eastern winds of May and June, 1935, reduced the yields of citrus and of most other fruits which also suffered considerable damage from insect pests.

Cisterns were frequently only half full at the end of the winter and the output of springs was poor. Consolidation of demonstration work instead of expansion was continued. Small plots have been discontinued, and fewer but larger plots are being worked in co-operation with progressive farmers.

Owing to heavy flooding at the Acre Station in winter 1935, and hot dry winds in the Majdal district, the harvest of selected grain was much lower than expected, only 19¼ tons of wheat, 22½ tons of barley, and 11 tons of leguminous seed were obtained from Government Stations. To meet the shortage some 120 tons of selected varieties of wheat and 22½ tons of barley, grown from seed originally issued by the Department were purchased from farmers, and after cleaning and grading where necessary, were resold to farmers at cost price.

FIELD MICE appeared owing to the exceptionally mild winter, but were quickly exterminated by the use of poisoned grain and gassing machines.

SCYTHRIS TEMPERATELLA again attacked cereal crops. 34 plots were established throughout the country to demonstrate the most effective method of combating this pest, by a change of rotation.

SMUT caused little loss to winter crops. The dura crops usually suffer most and issues of sulphur or ceresan were made with satisfactory results.

CAPNODIS SPP.

Investigations into the bionomics and control of Capnodis spp. are continuing. This pest causes considerable damage to stone fruits.

VEGETABLE PESTS.

A good deal of work was done on formulating prescriptions for the control of vegetable pests. Resulting measures of control have been published regularly in the Calendar Section of the Agricultural Supplement, which was introduced in January, 1936.

PRODUCTION.

The following table shows the yields of main crops compared with those in preceding years.

METRIC TONS.

	1930	1931	1932	1933	1934	1935
Wheat	87,339	51,519	56,186	48,305	85,171	104,353
Barley	60,071	26,243	29,496	32,580	70,308	68,905
Lentils	3,800	2,856	2,173	1,607	2,176	2,698
Kersenna	7,612	6,470	4,901	3,268	4,738	8,849
Beans	3,384	2,024	954	898	841	1,489
Peas	1,288	40	141	81	121	225
Dura	37,058	25,389	21,203	8,635	46,830	46,135
Sesame	2,365	3,000	894	292	2,658	6,914
Olives	2,993	33,906	6,559	3,599	6,647	45,092
Melons & Water Melons	14,840	28,706	31,727	20,748	36,447	68,799
Grapes	5,936	17,196	25,995	18,504	29,764	28,818
Tobacco	953	504	571	420	1,012	1,032
Vegetables	12,865	15,068	24,371	21,305	36,465	56,399

CITRUS.

The area under citrus cultivation was approximately 278,000 dunams at the end of December, 1935. Of this area 28,000 dunams were planted during the year.

Export crops of oranges, grapefruit, lemons and other citrus for the last five years are shown hereunder :—

Year	Oranges	Grapefruit	Lemons	Other Citrus	Total
	Boxes	Boxes	Boxes	Boxes	Boxes
1931/32	3,620,889	105,781	7,886	—	3,734,556
1932/33	4,209,562	256,258	17,104	478	4,483,402
1933/34	5,097,352	408,184	19,798	763	5,526,097
1934/35	6,507,995	791,661	30,058	1,132	7,330,846
1935/36	4,997,302	850,120	46,915	2,973	5,897,310

The small export crop of 1935/36 was due to hot, dry winds occurring in May which caused a heavy drop of young fruit. As a consequence of the damage, the Rural Property Tax payable by owners of citrus land, was reduced in certain districts, the total relief offered amounting to approximately £P.17,000.

As usual, about 70 per cent of the crop was exported to the United Kigdom. On the whole, the prices for oranges were slightly higher than those realised last year, while grapefruit prices were lower.

A Citrus advertising campaign was again conducted in the United Kingdom, European countries, India, Ceylon, Canada and Palestine. A total sum of £P.20,500, was spent, this being collected from the citrus industry by means of a small fee on each box of citrus fruit exported ; the fee was raised from two to three mils per box on the first of October, 1935, in order to provide larger funds for advertising the necessity for which is now well appreciated by the trade.

Mediterranean Fruit Fly (Ceratitis capitata) caused much more damage than in past years, and measures are being taken to draw the attention of growers to the dangers of this pest and to measures of control.

Fumigation against scale insects was continued, and as may be seen from the following table, the number of trees fumigated by private parties was much greater than in earlier years.

Year	No. of Trees Fumigated by Government.	No. of Trees Fumigated by private parties.
1931	41756	—
1932	92,131	21,858
1933	145,762	54,776
1934	147,206	38,268
1935	135,016	205,896

POTATOES.

The area under potatoes continues to increase from year to year, thus :—

Year	Area in dunams	Yield—Tons
1931	3,000	1,317
1932	2,863	929
1933	3,835	974
1934	5,252	1,834
1935	6,142	2,850

Comprehensive trials indicate that the Up-to-Date variety from Ireland is the best. 140 tons of good varieties were purchased from the United Kingdom and retailed to farmers at cost price. 102 varietal potato plots were established and trials were made in the storage of potato seed for sowing in mid September under irrigation.

TOMATOES.

The areas and production of tomatoes also record satisfactory progress, thus :—

Year	Area in dunams	Yields—tons
1931	21,332	7,097
1932	22,865	7,978
1933	29,566	7,471
1934	31,654	11,201
1935	32,246	17,286

OTHER VEGETABLES.

Coarse local types are rapidly being replaced by improved imported varieties. Experiments have now resulted in definite knowledge as to the varieties most suitable for local conditions and 750,000 vegetable seedlings and 138 kilos of seed were raised at agricultural stations and distributed free of charge to farmers.

MAIZE.

The area under cultivation continued to expand. 35 tons of seed were distributed to encourage the growing of this crop for grain and green fodder. The unirrigated crops gave good yields.

OATS AND VETCH.

There were satisfactory results from the demonstration plots of oats and vetch. While interest in the conservation of fodder continues, farmers are generally reluctant to grow crops for the making of silage.

FISHERIES.

The catch of fish reflects an increase over that of the preceding years, vide the following table :—

	Tons			Value		
	1933	1934/35	1935/36	1933	1934/35	1935/36
North						
Zib	36	32	32	1,825	1,124	1,105
Acre	61	65	80	3,501	3,261	3,686
Haifa	413	495	626	17,609	17,484	18,297
Tantura	23	19	16	1,355	1,109	920
South						
Jaffa	370	584	669	13,703	19,528	22,761
Jura	147	87	100	4,417	3,216	3,941
Gaza	61	38	91	2,323	1,540	3,321
Lake Tiberias	190	270	225	3,230	4,538	6,483
Lake Hula	240	250	91	1,800	5,000	2,015
Total	1,541	1,840	1,930	52,763	56,800	62,529

There was little change in the total numbers of boats and fishermen engaged in the industry, thus :—

	No. of Boats			No. of Fishermen		
	1933	1934	1935	1933	1934	1935
Northern District	147	164	161	376	440	465
Southern District	230	242	253	320	370	326
Lake Tiberias	55	65	36	171	212	204
Lake Hula	10	8	11	88	88	63
Total	442	479	461	956	1,110	1,058

Despite the larger catches, imports of fish were again considerably larger than those in the preceding years, owing to the growth in population and the consequent increased demand for fish in urban areas, thus :—

	1933		1934		1935	
	Tons	£P.	Tons	£P.	Tons	£P.
Fish in brine salted and smoked	1,152	25,921	1,660	37,812	1,632	37,706
Tinned Fish	583	26,913	1,112	49,389	1,471	68,707
Fresh Fish	1,218	46,134	1,458	54,518	1,755	67,151
Total	2,953	98,968	4,230	141,719	4,858	173,564

Premission was given to two sponge fishing boats to take sponge. They fished for 12 days from the 17th to the 28th of May and obtained about 700 pieces of which 35% were first quality and 65% second quality. These results justify further attempts to develop sponge fishing.

Although there is an increase in the number of convictions for fishery offences, chiefly for using dynamite or poison, or fishing without licence, it is believed that on the whole, the taking of fish by illegal methods is being checked owing to closer co-operation with the Police and as a result of the appointment of three fishery guards to assist the Fishery Officers stationed at Jaffa, Haifa, and Tiberias.

AGRICULTURAL MACHINERY.

Imports of agricultural machinery particularly in Jewish settlements continues to increase and there was also a marked increase in the use of tractors purchased by Arab farmers on a co-operative basis. The demand for steel ploughs, harrows, and light cultivators also increased.

Imports of agricultural machinery during the last five years are shown below. It will be seen that the value of machinery imported in 1935, was nearly double that of the machinery imported in 1933 and 1934.

Year	£P.
1930	20,423
1931	13,987
1932	11,872
1933	56,376
1934	56,632
1935	100,935

GRAIN-GRADING MACHINES are popularised by the Department and additional machines were purchased bringing the total number up to 25 to demonstrate the advantage of grading seed grain and eliminating weed seeds. Other implements from agricultural stations were also loaned to neighbouring farmers for demonstration purposes.

MANURES AND FERTILIZERS.

The practice of using chemical fertilizers is slowly spreading among Arab farmers. Total imports of all kinds of manures and fertilisers are shown in the following table :—

Year	£P.
1930	52,524
1931	33,473
1932	61,689
1933	99,656
1934	109,208
1935	99,651

SECTION II.

WORK OF THE DEPARTMENT.

AGRICULTURAL EXPERIMENT STATIONS AND DEMONSTRATIONS.

A new hill station was established at 'Ein 'Arrub mid-way between Jerusalem and Hebron on an area of 200 dunams. At all Experiment Stations, the production of true to type seed, improved vegetable seedlings and seeds, and the raising of grass seed was continued.

The area under crops at all Agricultural Stations was 2,340 dunams as follows :—

Wheat	570	dunams
Barley	410	"
Oats	100	"
Leguminous crops	670	"
Green crops	590	"
Total	2,340	"

37 farms of 75 dunams were established in cooperation with farmers to demonstrate the value of a good rotation. Seed farms of 100-500 dunams for the growing and propagation of seed were established on a total area of 2,000 dunams. 417 demonstration plots varying from 5 to 50 dunams each were devoted to hay production in order to provide better feed which is an inseparable accompaniment of the Department's efforts to upgrade livestock.

Demonstrations in the application of chemical fertilisers were also carried out in co-operation with 16 well known farmers. In all cases, the yields from selected grain issued from the Department's Agricultural Stations, were well above those from local seed.

HORTICULTURAL EXPERIMENT STATIONS.

In the Chief Horticultural Officer's report attached hereto full details have been given of the area, situation, climatic factors, and experiments in progress at each of the ten Horticultural Stations. A new horticultural station at 'Ein 'Arrub was established in the main Jerusalem-Hebron road on an area of 100 dunams. It is intended to demonstrate at this station the possibilities of growing deciduous fruit trees and vines under improved cultural practices in a district where primitive methods now prevail. A small nursery has also been established at this station for the distribution of plants to the public in the hill areas of Jerusalem and Hebron districts.

At the end of 1935, the Horticultural Station at Jerusalem was transferred to the Entomological Service for the study of the life history of *Capnodis* with a view to devising means for controlling this pest which causes considerable damage to stone fruits.

The Acre and Majdal Stations were enlarged by 30 and 7 dunams respectively, to provide accommodation for nurseries. At all stations arrangements have been made for a three year rotation system to avoid the planting of the same areas with nursery stock year after year.

The fruit tree collections were extended by further introductions. The raising and distribution of nursery trees formed the principal work at most stations, especially at Acre, and the table below is a summary of the numbers and kinds of plants distributed free or sold :—

	FREE DISTRIBUTION					SOLD	Total
	Experiment Stations	Military & Police Posts	Schools	Public	Total		
Citrus Seedlings	4,147	—	—	—	4,147	17,794	21,941
Citrus Budded	4,123	—	—	—	4,123	509	4,632
Fruit Trees	13,348	471	1,182	55	15,056	25,734	40,790
Vines	6,889	200	4,555	720	12,364	52,566	64,930

In addition, 31,500 stocks and fruit trees were distributed to villagers of the Nablus Sub-district who suffered loss during the floods of February, 1935.

FRUIT DEMONSTRATION PLOTS.

The scheme of demonstration plots was extended, bringing the total number of plots in all districts up to 29, comprising 5 plots for vines, 5 for olives, 18 for deciduous fruits and one for dates. The objects of these plots are to test the suitability of various standard varieties in each area, and to demonstrate better methods of fruit growing and to serve as a source of budwood.

CITRUS FRUIT INSPECTION.

The work of the Citrus Fruit Inspection Service is to examine fruit exports for the purpose of seeing that they conform to the Fruit Export Regulations, and to conduct propaganda among growers during the summer season, for the control of pests and diseases.

Rejections of citrus fruit for various causes amounted to 130,411 boxes, or 2.4 per cent of the exports as compared with 1.7 per cent in the previous season ; 21.3 per cent of the total rejections were on account of infection by Mediterranean Fruit Fly.

Fruit Inspectors visited 2,786 groves during the summer months for the purpose of demonstrating the value of better orchard sanitation and particularly the control of scale insects.

INSPECTION OF PLANTS.

9,533 consignments of plant imports were inspected by Plant Inspectors of the Entomological Service of which 573 were confiscated on the grounds that the plants were either infected with injurious pests and diseases, or imported in contravention of the orders and rules under the Plant Protection Ordinance.

HORTICULTURAL INVESTIGATION AND RESEARCH.

A detailed survey of the citrus groves in the Acre sub-district was completed and the report is under consideration.

Further progress was made in the determination of a standard box for the export of citrus fruit.

Arising out of Mr. Stockdale's recommendations, arrangements were made for Dr. R. G. Tomkins of the Low Temperature Research Station, Cambridge, to visit Palestine in March, 1936, to investigate the possibilities of storage of citrus. Dr. Tomkins toured the principal citrus areas visited research stations and experiment stations and discussed problems with the trade. His report is awaited.

At 'Ein 'Arrub Horticultural Station experiments have been started to test selected strains of wild almond trees as stocks, as up to the present collections of wild almond seeds have resulted in a very mixed nursery population.

A commencement has been made at the horticultural station with the recording of girth measurements of deciduous trees, and it is hoped that the data obtained will, in the years to come, be of assistance in comparing the suitability of stocks and scions for the various conditions of the country.

An October pruning of deciduous trees was compared with the usual winter practice ; the indications were that spring growth was advanced, and, in the plains particularly, this was detrimental to apples, pears and certain varieties of stone fruits. Consequently, further investigations will be necessary before October pruning can be recommended.

VETERINARY.

Palestine has continued to remain free from foot-and-mouth disease since September, 1933. There were no outbreaks of serious epizootic diseases.

The practice of dipping cattle and sheep is spreading with the result that losses due to tick fevers are declining. Government issued loans to groups of villages for the construction of eight permanent concrete sheep dipping baths, making a total of 19 sheep dipping baths now in the country. Dipping powder for the first season's dipping was also issued gratis in all cases.

Continued progress was made in the eradication of Bovine Contagious Abortion.

For demonstration purposes, over 40,000 sheep and goats were vaccinated against Anthrax in the Jerusalem District; no deaths resulted, while in the villages where vaccination had not been practised, losses from anthrax were considerable.

14,924 cattle and 207,207 sheep and goats were imported through land frontier quarantine stations as compared with 9,053 cattle and 96,072 sheep and goats in the preceding year. There was also a big increase in the imports of cattle by sea through the quarantine station at Haifa for slaughter in quarantine. 25,000 cattle were imported as compared with 17,900 last year.

Imports of poultry from overseas increased from 27,650 in 1934/35 to 1,390,000 in 1935/36.

Imports of dairy cattle to meet the local demand for liquid milk and dairy produce were also increased from 609 in 1934/35 to 2,326 in 1935/36.

Imports of livestock, meat products and dairy produce have increased to meet the growing demands of the increasing population from £P.543,000 in 1933 to £P.918,000 in 1934, and to £P.1,346,000 in 1935.

Pure bred karakuls have acclimatised well. Experiments are being continued with the objects of producing a high priced lamb skin, at the same time maintaining the milk of the producing ewes.

The improvement of village livestock continues. 50 bulls of Lebanese, Kerry and Boaz breeds were again distributed on loan to villages as in previous years. Ten Government jackasses and one Arab stallion stood at stud in the districts during the year. Inferior male livestock continued to be sterilised and castrated.

Although the poultry industry continued to expand, some 80 million eggs and two million live fowls were imported with a value of about £P.500,000, to meet the local deficiency. The imposition of higher tariffs on imported poultry and eggs to stimulate production is under consideration.

484 bee-hives were issued last year by way of loans to encourage modern bee-keeping. 193 tons of sugar at cost price, free of customs duties, were issued to bee-keepers.

The measures taken to increase the numbers of livestock and improve their quality and health are described in detail in the report of the Chief Veterinary Officer, attached hereto.

AGRICULTURAL EDUCATION.

KADOORIE AGRICULTURAL SCHOOL, TULKARM.

This school has completed its fifth year of instruction. The extension wing donated by His Excellency the High Commissioner was completed during the year, and provides accommodation for 30 more boarders, so that seventy students are now in residence. The course is for two years and there are

30 students in each of the two classes. Ten students of the second year class who obtain the school diploma, are selected annually by the Department of Education for a further year's training in pedagogy, and are afterwards appointed teachers in village schools, so that an agricultural bias can be given to the syllabus.

During the year, the farm was increased by an additional area of 200 dunams. This new area will be devoted to main crops, so that more of the school farm can be put under irrigation for vegetables and green crops.

The final examinations for the second year class held in July were very satisfactory. Only one student failed to obtain his diploma. Special attention was given to the improvement of local poultry, and in order to upgrade native cattle, a local herd was acquired for the school.

A special course of training was arranged in the Government Forest Reserve at Ras 'Amr, where students were instructed in the making of terraces and in the planting of hill lands. The cultivation of improved varieties of tomatoes was a special feature, and their canning qualities have been tested. The preservation of vegetables and fruits has been included in the syllabus, and most satisfactory results were obtained.

The basic principle of the two year course is to teach the student practical agriculture in all its branches,so as to fit him to return to his farm and develop and improve it.

KADOORIE AGRICULTURAL SCHOOL, MOUNT TABOR.

This school which was opened in June, 1934, is now fully equipped. During the year poultry buildings were erected providing for the raising of 500 laying hens annually. The well has been dug to a depth of 75 meters, and there is now an ample supply of water for the school and the farm. Three dwelling houses for the staff were erected from funds generously donated by Sir Elly Kadoorie.

An area of 80 dunams of rocky land was cleared and made suitable for cultivation with modern farm-machinery. The vegetable garden was extended during the year to 30 dunams, on which over seventeen kinds of vegetables are being grown with satisfactory results. The school was able to supply from its vegetable nursery, thousands of seedlings to growers in the neighbourhood, and large quantities of vegetables are sent to the market for sale, after supplying the school kitchen.

Floriculture has also been successful. The students are trained not only to cultivate flowers but to prepare and pack them for the market.

The school raised over 14,000 trees for planting on its own lands and to extend the fruit and citrus orchards. Surplus trees were distributed to neighbouring farms and villages.

Instruction was continued in the preservation of vegetables, fruits and olives. Most of the produce was consumed by the school, the balance being disposed of by sale.

The average yield of the cows has been maintained at about 4,000 litres per head per year ; and the butter-fat content remains at about 3.8%, which is satisfactory.

The local flock of sheep numbering 116 head has developed well, and all the work in the sheep shed as well as the pasturing of the flock is performed by the students.

The full number of fifty students is now resident at the school. In July, twenty-six students passed their first year examinations and entered their second year of study. The first year students commenced their course in September, 1935, and applicants were so numerous that for each available place, there were four candidates.

The students devote four hours to work on the farm and four hours to classroom studies daily. Their progress in practical training and study is satisfactory, and there is every reason to believe that the majority will adopt farming as a career when they leave school.

SCHOOL GARDENS.

Implements were again loaned to village schools of the Department of Education which were supplied with seeds, vegetable seedlings, fruit trees, and poultry, etc.

AGRICULTURAL SUPPLEMENT.

In January, 1936, the first number of the Agricultural Supplement appeared. It is published on the third Thursday of every month together with the Palestine Gazette in English, Arabic and Hebrew. It contains leading articles on topical subjects, notes on crops and crop prospects, the work done at agricultural and horticultural stations, market reports, a monthly calendar of farm operations and notes and abstracts of interest.

METEOROLOGY.

Meteorological records are maintained at ten official meteorological stations where records of air pressure, wind force, evaporation, relative humidity, temperature and rainfall are recorded. The detailed 1935/36 rainfall and meteorological records are attached hereto.

In addition there are 56 rainfall stations, mainly private, submitting their rainfall records to this office for compilation and publication.

The value of these records accumulates as the years go by, and it is worthy of note that the rainfall records of the Jerusalem station date back to 88 years, those of Miqveh Yisrael to 39 years and those of Tiberias to 32 years.

GENERAL AGRICULTURAL COUNCIL.

The General Agricultural Council with its nine Committees, and a total membership of 141, again met frequently and gave valuable advice to Government on various matters.

Sub-Committees were appointed to deal with important questions such as the Rural Property Tax Ordinance ; customs duties on eggs and poultry ; and the utilisation of organic manure. Reports on these questions were submitted and are receiving the consideration of Government. Certain of the Council's recommendations have already been approved by Government, thus :—

(a) the customs duty on tomatoes was increased from £P.2 to £P.4 per ton on the 25th of March, 1936 ;

(b) the duty on meat and fish meals, in order to cheapen the cost of poultry feed, was abolished on the 16th April, 1936 ;

(c) legislation was introduced on the 16th of February, 1936, requiring that all imported eggs be marked with the country of origin.

Other matters such as proposals to facilitate the construction of village roads, and the problems connected with the transport and marketing of citrus fruits are referred to more fully in the report of the Secretary of the General Agricultural Council attached hereto.

SECTION III.

FINANCE.

REVENUE AND EXPENDITURE.

The expenditure of the Department has increased from £P.40,678 in 1921 to £P.184,523 in 1935/36. The following table shows the expenditure on the principal services during the past two years :—

EXPENDITURE	1934/35 £P.	1935/36 £P.
Administration, Clerical, Accounts and Stores	7,693	11,012
Veterinary including Quarantine, Hospital, Contagious Diseases and Laboratory Services and attendance of Police animals	20,564	27,995
Agricultural Field Service, including Experiments and Demonstrations.	17,807	27,486
Horticulture, Citrus Research and Fruit inspection.	24,202	30,071
Advertising of Citrus Fruits.	12,655	18,922
Animal Husbandry.	14,134	15,554
Entomological, including Fumigation and Plant Inspection at Ports of Entry.	16,151	15,882
Kadoorie Agricultural Schools at Mount Tabor and Tulkarm.	12,800	13,677
Meteorological Service.	381	445
Fisheries Service	1,285	1,172
Upkeep of Government House Grounds.	919	808
Sericulture.	1,089	936
Forest Service.	17,688	20,563
	147,368	184,523

The revenue of the Department has increased from £P.4,226 in 1921 to £P.74,910 in 1935/36. The principal sources of revenue for the past two years are shown in the following table :—

REVENUE	1934/35 £P.	1935/36 £P.
Animal Quarantine Fees	16,461	30,065
Fruit Inspection Fees	10,410	9,846
Citrus Advertising Fees	12,655	18,504
Sale of Agricultural and Horticultural Produce	789	3,264
Stock Farm Receipts	1,852	~~579~~ 2169
Plant Fumigation Fees	1,249	849
Kadoorie Agricultural Schools	3,316	6,723
Forest Receipts	4,630	5,080
	51,362	~~74,910~~ 76500

Satisfactory liaison and co-operation with the Research and Experimental Stations of the Jewish Agency were maintained. To assist the Jewish Agency in its research work, the results of which will be made available to the country as a whole, grants-in-aid were made during 1935/36 for the following purposes :—

	£P.
Citrus Research	3,000
Grant for experimental fruit growing at Hillside Station, Qiryath Anavim	300
Grant for Intensive Farming Experiments	300
Grant for Field and Garden Experiments	1,200
Grant for Animal Nutrition	500
Grant for Mycological Investigations	350
Grant for Irrigated Fruit Trees Experiments at Gvath	200
Grant for non-irrigated Fruit Trees Experiments at Geva	300
Grant for Studies in Rural Economics	400
Grants to the Hebrew University :	
For Spirochaetosis Research	180
For Field Mice Investigations	200
	£P.6,900

SECTION IV.

LEGISLATION.

Rules providing for the destruction of mares infected with Dourine were published to assist in the proper control of this disease and its gradual eradication.

Rules were issued in February, 1936, regulating the importation of poultry by sea and land, requiring importers to be in possession of suitable premises which can be easily disinfected and properly equipped with detention cages for the poultry which are detained in quarantine on those premises for 6 days.

Control of plant nursery regulations were issued under the Plant Protection Ordinance to ensure that plants distributed from private nurseries shall be true to name and type, and free of pests and diseases.

POTATOES.

New regulations were published on the 5th September, 1935, under the Plant Protection Ordinance, 1924, prescribing the conditions under which seed potatoes may be imported into Palestine; and on the 16th September, 1935, seed potatoes were added to the schedule of commodities which may be imported free of customs duties.

MARKETING OF EGGS.

Regulations under the Customs Ordinance were introduced on the 16th February, 1936, requiring all imported eggs to be marked with the country of origin.

WORK OF THE FOREST SERVICE.

As from the 1st April, 1936, the Forest Service which had functioned since 1920 as a section of the Department of Agriculture, Forests, and Fisheries, was reorganised as a separate Department. Its personnel has been strengthened and its funds increased.

36 new reserves were proclaimed during the year with an aggregate area of 37,030 dunams, bringing up the total reserves gazetted to 272 over an area of 724,019 dunams, or approximately 284 sq. miles.

1,410 persons were prosecuted for forest offences of whom 1,111 were convicted, the fines amounting to £P.866. A marked feature was the increase in contraventions arising out of land encroachments, which numbered 306.

Happily there were no forest fires .

At the end of March, 1936, there were 37 closed forest areas, with a total area of 27,342 dunams, being 2.8% of the total area of reserves.

951 licences were issued permitting the grazing of a total of 70,799 domestic animals in forest resrves.

Approximately 1¼ million plants were raised at 14 nurseries. Planting and replanting were carried out at 32 places, five of which were newly planted areas. 126 new small areas were planted by private agencies over a total area of 3,113 dunams, bringing the total to 1,059 plantations covering 35,301 dunams. Many of them are small wood lots planted at settlements.

Revenue amounted to £P.5,080 being £P.450 more than the previous year. Of this sum, £P.4,395 were derived from licence fees in respect of sales from privately owned forests, and £P.538 were derived from produce extracted from Government reserves.

Expenditure amounted to £P.20,563.

The activities of the Forest Service are more fully described in the report of the Conservator of Forests and in the detailed appendices attached thereto.

Reports are attached hereto by the following officers, describing in detail the work of their respective branches :

Chief Agricultural Officer.
Conservator of Forests.
Chief Horticultural Officer.
Chief Veterinary Officer.
Veterinary Pathologist.
Senior Poultry and Bee-Keeping Officer.
Manager, Stock Farm and Agricultural Station, Acre.
Government Entomologist.
Chief Fisheries Officer.
Secretary, General Agricultural Council.

It is my pleasure once again to place on record my thanks to the staff of the Department for the loyal support and assistance they have rendered, and also to members of the General Agricultural Council and Committees thereof for their valuable co-operation and advice.

M. T. DAWE.
Director of Agriculture and Forests.

30th September, 1936.

REPORT OF THE CHIEF AGRICULTURAL OFFICER
FOR THE YEAR
1st APRIL, 1935 to 31st MARCH, 1936.

STAFF.

An additional Agricultural Inspector was appointed enabling an Inspector to be allotted to each Sub-district. Four more unclassified Agricultural Assistants were allotted to Inspectors in the larger Sub-districts.

Two new appointments of Assistant Station Superintendents were necessary for Farradiya and 'Ein 'Arrub stations to deal with the agricultural sections.

At the close of the year the staff of the Agricultural Service consisted of:—

Headquarters :	Chief Agricultural Officer	1
	Clerk and typist	1
District Staff :	Agricultural Officers — Grade K.	3
	Agricultural Inspectors " N.	6
	" " " O.	10
	" Assistants	8
	Station Superintendents	4
	Assistant Station Superintendents	5
	Clerks	2
	Mechanics	3
	Farm Labourers	15
	* Meteorological Observers	9

* NOTE
This service has since been handed over to the Civil Aviation Department.

GENERAL.

Contrary to expectations, the cereal harvest in the summer of 1935, showed a decided increase over that of the previous year. The failure of the latter rains caused a great deal of anxiety, more especially as April and May of 1935 were characterized by abnormally hot weather accompanied by easterly winds. Wheat crops more especially in the central plains of Gaza were badly blighted. Barley yields were in general exceptionally good in the southern areas and fair in the north. The outstanding feature was the very poor crops of wheat and barley on the Acre and inland plains due to violent siroccos in late spring and heavy flooding in winter. The beneficial results of this were however, seen in summer, both dura, sesame and maize showing a very fine germination throughout the greater part of the country.

After the very hot and dry spring, a complete change of climatic conditions in June, materially benefited both the growth of summer and field vegetable crops.

In the northern areas, due to an abundance of moisture in the soil, greatly increased areas were planted to sesame with a corresponding decrease in the

area sown to dura. In the hill regions there was an increasing tendency to supplement dura and sesame with cucurbitaceous vegetables and beans as summer crops. A little fusarium wilt in the sesame did not materially affect the total yield for the country which was good.

2. Grazing throughout the summer was fair in the hills, and stubbles were more than sufficient to keep the stock in good order until the onset of the rains towards the end of 1935. No losses of stock were reported and hand-feeding in the late autumn and early winter was not necessary. The only district in which there was distress necessitating the issue of seed loans was Beersheba, especially in the south and south-eastern regions of the sub-district.

3. Unfortunately yields from agricultural stations were poor owing to heavy flooding at the Acre Station in winter, while siroccos during spring in the Majdal district shrivelled the wheat at its most vulnerable stage. To meet the consequent demand for grain for distribution, over 120 tons of selected varieties of wheat and 22 tons of barley grown from seed originally issued from agricultural stations were purchased and sold to farmers at cost price, or on repayment in kind or cash after the following harvest. As an additional potential supply of good quality grain, large seed farms were established in various parts of the country over a total area of over 2,000 dunams. In some instances, cooperators were supplied with chemical fertilizers.

4. Winter forage demonstration plots mainly of oat and vetch, and wheat and vetch have given satisfactory results in most sub-districts. Efforts are being continued to encourage the cultivation of vetch in preference to kersenna, for the production of seed for a hay mixture.

In the summer crop fields, a continued expansion in the area under maize was noted. Some 35 tons of seed were distributed from the various agricultural stations and the unirrigated crops in the northern and coastal areas yielded heavily. Continued interest in the conservation of dry fodder is being shown, but farmers are somewhat reluctant to grow maize for silage.

Threshing floors were cleared by the end of September permitting farmers to commence 'Afir sowing. The inclement weather conditions of the early summer seriously affected the olive trees and with the exception of the northern ranges of Galilee, yields throughout the country were generally poor.

5. A marked increase in the use of tractors by Arab farmers which they purchased on a cooperative basis, is an outstanding feature of the year. The demand for steel-ploughs, harrows and light cultivators also increased. Prize-winners at a small horticultural and agricultural competition in the Nablus district were given light agricultural implements as prizes in lieu of cash. A power-grading machine was purchased for the main Agricultural Station at Acre, and gave excellent results.

6. The opening of the 1936 season augured well for the farming population. Early and well distributed rains in the autumn of 1935 caused a very regular germination of all 'Afir sown crops, and subsequent falls with a fair interval between them gave farmers good opportunities of turning over their lands for winter sowing. These excellent conditions continued over the greater part of the country, but there were unfortunately areas in which the good prospects quickly changed due to shortage of rain. Disaster towards the end of 1935 overtook crops which had germinated in the Beersheba Sub-district ; and 'Afir sown crops in the eastern portions on the Nablus and Beisan hills were dying before mid-winter. Weather conditions during

December, 1935, and January 1936, were most unseasonable and rainfall was abnormally low. Not since the rainfall had been recorded by the Department of Agriculture had falls been so low taken together or separately for the months of December and January. The inclement conditions encouraged the attack of Scythris temperatella throughout the country.

7. In the southern areas, the sowing of cereal and leguminous crops had been completed by the end of January, but was continued in the northern ranges until well on into February. The continued absence of rains in parts of the Southern District had left cereals in a very precarious condition at the commencement of the year. Over an area computed to be in the vicinity of 80,000 dunams in the Beersheba district, both wheat and barley had either perished or the seed had not even germinated. On the southern coastal plain, cereal crops which had shown such excellent promise were prematurely running into ear.

8. The output of springs was poor and hill-side cisterns were in many places only half full at the beginning of the spring of 1936. Grazing on the other hand was plentiful except in the eastern areas of the country. Unable to withstand the dry conditions, cereals in the Ghor region died off. The failure extended to parts of the Jenin plain. Good general rains commencing about the middle of March, saved those crops which were not already adversely affected by the droughty conditions. It was unfortunately too late to be of much benefit to the crops of western Beersheba, parts of Gaza, Beisan and Nablus, but did save the crops of the Judean hills and nothern areas and materially helped the grazing situation. Favourable climatic conditions during the latter part of March helped cereal and leguminous crops considerably, and the yields of cereals have been with the exception of the eastern and southern areas much better than was expected.

There was a very considerable decrease in the area planted to summer crops especially sesame. At the close of March to which date this report refers the prospects for a good summer crop are very remote.

SERVICES OF THE DEPARTMENT TO THE PUBLIC.

9. Continued progress has been made by the Agricultural Service in enlarging and consolidating rather than in expanding demonstration work among farmers. Small plots where possible have been discontinued, and fewer but larger areas are being worked in cooperation with progressive farmers. There has, however, been a slight increase in the numbers of demonstration plots in cooperation with the Departmnt of Education. The extension work embraces cooperative seed farms of 100 to 500 dunams each in area ; plots of 75 dunams to demonstrate a sound rotation ; the treatment of land with a view to eradicating *Scythris temperatella,* one of the most damaging pests in the country ; the establishment of forage plots of lucerne, other forage mixtures and demonstration plots of maize and potatoes. Vegetable seed and seedlings are distributed gratis.

10. Due to satisfactory results from potatoes imported from the United Kingdom and reluctance of local farmers to place orders overseas, Government purchased and imported 140 tons of potatoes which were issued for resale at cost price. The successful results from the current season's crop gives every reason to consider that at least 300 tons could safely be ordered during the year. The adjustment of the import regulations regarding potatoes by a permit system enables potato growers to import their own seed without difficulty if they wish to do so.

11. The purchase of additional hand-grading machines enabled many farmers to take advantage of an opportunity to grade their seed-grain, and at the same time, to eliminate weed-seeds. There are now 25 of these machines in various parts of the country, but although popular, villagers are not purchasing for themselves.

ISSUE OF SELECTED SEEDS TO FARMERS.

12. The failure of crops at agricultural stations due to climatic conditions in the winter of 1935 and the following spring resulted in a dearth of selected grain at stations. To meet the increased demand seed was purchased from farmers who had been in receipt of supplies from Government stations in previous years. Great difficulty was met in being able to secure a sufficient quantity of barley, but the 120 tons of wheat plus 22 tons of barley purchased and graded, enabled the seed farms to be established. It was sold at market rates or issued on the basis of repayment after harvest. Only 19¼ tons of wheat, 22½ tons of barley and 11 tons of leguminous seed were available from Government stations.

ERADICATION OF PESTS AND DISEASES.

13. SCYTHRIS TEMPERATELLA. Again a very wide spread attack of *scythris temperatella* attacked cereal crops throughout the country. 34 plots demonstrating the most effective method of combating this pest were established. Propaganda in the form of pamphlets has been disseminated and every measure possible taken to induce farmers to eradicate the pest from their land.

Dusting machines with the necessary insecticides and fungicides were purchased to demonstrate methods of combating fungus and insect pests.

14. An appearance of field mice due to the abnormally mild conditions experienced in the 1935/1936 winter caused alarm, but quick action with poisoned grain and gassing machines, stopped the spread of the pest.

15. FUNGUS DISEASE CONTROL-SMUT. There was little if any loss in winter cereals from smut. The dura crop is usually most heavily attacked. Supplies of sulphur or Ceresan were extensively issued throughout the season, and gave better results, than treatment with copper sulphate and copper carbonate. In the Safad district, where fungus diseases are most prevalent, farmers were generally responsive to the offers of the service and availed themselves of the use of Departmental disinfecting machines and fungicides.

16. The grading machines loaned by the Department serve the dual purpose of both grading farmers' seed grain and eliminating weed seeds. It is a difficult task to keep down weed seeds in crops sown under the 'Afir system and in any case it is only by utilizing family labour in spring that wheat is as free of weed seeds as it is.

17. Perhaps the most decided improvement in the cultural practices of the country is the very rapid manner in which the coarse local type of vegetable is giving place to imported varieties. Definite and conclusive results have been obtained from varietal tests as to which varieties are most suited to the country. The demand by market gardeners for seedlings and seed of imported varieties of vegetables of all descriptions raised at agricultural

stations is heavy and continually on the increase. During the season under review in addition to the 750,000 seedlings, 180 kilogrammes of tested seed were distributed. The majority of imported varieties do well under local soil and climatic conditions.

AGRICULTURAL ACTIVITIES.

AGRICULTURAL MACHINERY.

18. There is continued progress in the Jewish settlements in the use of agricultural machinery. British, Continental, and American firms are all represented in the larger towns. Arab farmers are also purchasing more tractors, threshers, reapers, ploughs and cultivators. The value of agricultural machinery imported in 1935 totalled £P.100,835, as compared with £P.56,832 in 1934. There were 294 tractors at work on farms.

MANURES AND FERTILIZERS.

19. The denudation of farming areas of organic manure by Bedouin and landless Arabs still continues. No progress has been made in the matter of utilising town refuse as manure and it is highly improbable that sludge and sewage will be available for some considerable time. The sales of chemical fertilizers do not show a heavy increase, but the Arab farmers are beginning to realize the impossibility of maintaining soil fertility without recourse to chemical fertilizers, and the doubt of their efficacy is gradually disappearing. Imports of all kinds of manures and fertilizers amounted to 13081 tons at a value of £P.99,651 in 1935.

MARKETS.

20. Prices of cereals remained comparatively low until the autumn of 1935. Owing to the international situation, and notwithstanding the fact that there were adequate stocks of wheat in the country, prices rose appreciably, and there was considerable fluctuation until early in 1936 when prices returned to almost their normal level. Earlier in 1935, prices were as low as £P.7.— per ton for wheat. Barely generally remained steady at from £P.5.500 mils to £P.4.780 mils per ton.

Other agricultural commodities showed no appreciable rise or fall, though prices for leguminous grain were firm throughout the year. There were good supplies of tibn in the country and prices were normal during the year, never rising above £P.2 per ton. The price of local dairy produce showed seasonal fluctuation. Melon prices were rather low.

PRODUCTION OF CEREALS.

21. A generally good harvest with perhaps the exception of Beersheba and parts of the eastern areas of the country resulted in a very considerable increase in the total yield from both cereal and leguminous crops. The adequate stocks of grain obviated the necessity of issuing permits to import wheat for millers to the usual extent.

In certain areas in the south due to early siroccos the grain of late sown wheats over the central plains of southern Palestine was of a poor quality and badly shrivelled. In the north however, little damage was done to the grain

which was well up to standard. In all cases the yields from selected grain obtained from Government agricultural stations were considerably above those from local seed. The failure of the late spring rains in the eastern and south-eastern parts of the Jordan Valley resulted in poor harvests.

The flooding of the Acre and inland plains caused heavy damage and was responsible for a distinct drop in the total yield for the sub-district.

In Beersheba district where the crop showed excellent promise until toward the middle of March ,there was at least a 50% deficit in comparison with the normal. The failure of the late spring rains ruined the crop in the eastern and south-eastern regions to the extent of 60%.

Except for the Beersheba district, barley yields were generally good throughout the country. Even here, however, this crop did not suffer to the same extent as did the wheat. Issues of the departmental seed gave heavy results, so much so that when Government entered the market as buyers, farmers were reluctant to dispose of it.

LEGUMINOUS CROPS.

22. The principal leguminous crops of the country are horse-beans, usually grown on the heavy plains of the northern areas, lentils, popular in the central coastal plains of the southern districts, kersenna, grown largely in the hill areas throughout the country, and chick peas grown extensively in the central and northern districts. Very limited areas under fenugreek are to be found in some sub-districts. Peas are not universally grown.

There is a general tendency to sow increasing areas under vetch, which is sought for by farmers for the hay mixture. Purple vetch lately introduced, has given satisfactory results and is being acclimatised at agricultural stations and distributed.

It was confidently expected that the crop for the country would reach 20% to 25% above the normal, but the early siroccos which damaged the wheat caught the legumes in the vulnerable stage and considerably reduced the yields.

Winter Crop Productions

	1934 Tons	1935 Tons
Wheat	85,171	104,353
Barley	70,308	68,905
Lentils	2,167	2,698
Kersenna	4,738	8,849
Beans	841	1,489
Peas	121	225

SUMMER CROPS.

23. The failure of the spring rains was responsible for a decrease in the area under summer crops in the Southern District, and that coupled with the short ploughing season following the heavy rains of winter was not conducive to the universal sowing of sesame. In the northern areas, however, a marked increase in the area under sesame was noted as farmers took the opportunity to sow those areas which had been flooded in the winter on which either the cereals had been destroyed or had not been able to be sown.

The late sown chick peas received a very serious set back in May. Melon crops both early and late sown gave very satisfactory yields, but prices were not up to the usual standard.

In the southern areas, the summer crops of sesame showed to advantage over the dura which ran into ear prematurely. Maize crops were only fair, but in the northern areas summer crops of all descriptions were well up to the average and gave in most instances heavy returns.

Heavy yields of dura were harvested. The cultivation of maize always popular in Jewish settlements is now being increasingly grown in Arab lands with fair yields. There were large areas of sesame sown in the north and there was a decided increase in the area of this crop in the south.

Summer Crop Productions

	1934 Tons	1935 Tons
Dura	46,830	46,135
Sesame	2,658	6,914
Melons	36,447	68,799

TOBACCO.

24. There is continued agitation to cultivate tobacco in areas other than the north western ranges and Galilee. The issue of licences is restricted as far as is possible, as it is considered that no impetus can be given to the industry by putting out the inferior quality leaf grown in the cereal hills. The Baladi or local type is grown to a certain extent for blending purposes. The crop of Turkish leaf was satisfactory and due to the competition through the establishment of several more small cigarette factories, prices were 20 to 25% in advance of the year previous. Tombac is cultivated to a slight extent in the irrigated areas, but the quality is not up to that of the imported variety. The area under Turkish varieties was 17658 dunams, under Baladi 1352, under tombac 859; with yields of 898 tons, 58½ tons and 43½ tons respectively.

VEGETABLES.

25. Imports of vegetables from neighbouring countries again showed a considerable increase, and it is clear that the local supply falls short of the demand. Marked activity is seen on farms and groves in respect of intensive cultivation of imported varieties. Two important vegetables, the cultivation of which is expanding statisfactorily, are tomatoes and potatoes. Production of the former has more than doubled itself in the last four years and the yield is now in the vicinity if 17,000 tons from 33,200 dunams. The area under potatoes has increased this season from 6,000 dunams to 8,400. Comprehensive varietal trials have shown that the Up-to-Date variety of seed potatoes imported from Ireland is the most satisfactory for this country. Although the local supply cannot meet the demand it now totals the imports of six years ago.

WORK OF THE FIELD SERVICE.

26. The activities of the Agricultural Service can be said to extend in three main directions ; first hand instruction to farmers through the medium of peripatetic instructors ; the distribution and sale of selected grain, vegetable seedlings and seed from agricultural stations, and demonstrational work among the more progressive farmers. District Field Officers on their tours of instruction also collect statistics, distribute fertilizers, and seed grain, implements, disinfecting tools, fungicides, insecticides, and leaflets, and generally endeavour to induce farmers to adopt more progressive methods.

27. Demonstration work as an educational extension to the Agricultural Station is considered the soundest form of raising the standard of agriculture in the country. Hitherto a large number of small plots widely distributed was considered suitable, but the work involved did not permit a small staff giving the individual attention necessary. The numbers of small plots have therefore been cut down considerably, and replaced by more extensive areas. There are now 37 farms of 75 dunams throughout the country demonstrating a good rotation. All seed and fertilizers is supplied gratis, and implements loaned.

In order to secure a greater distribution of selected grain from agricultural stations seed farms of from 100 to 500 dunams in area were established. Farmers cooperating are given the seed on the basis of repayment in kind or cash after harvest. The total area of these farms is 2,000 dunams.

28. Continued endeavours were made to bring about better feeding of livestock in conjunction with the upgrading of stock by the Veterinary Service. With this object in view, 417 plots varying in area from 5 to 50 dunams each were put down to hay. The necessary seed mixture was supplied free of charge. The gratifying yields resulted in some Arab farmers sowing areas of as much as 250 dunams exclusively for hay.

A heavy demand for lucerne and berseem seed is met as far as is possible from agricultural stations.

29. In order to foster the rapidly growing potato industry, varietal tests carried out at agricultural stations, are extended to cooperating farmers. 102 potato demonstration plots were established. The difficulty of securing imported seed in time for mid-September planting under irrigation, makes storage of potatoes harvested in the summer desirable. Consequently, experiments in this connection are being carried out at agricultural stations.

30. In addition to the seed farms and rotation demonstration plots, 16 progressive farmers were issued with chemical fertilizers of varying descriptions. Satisfactory growth of crops on the fertilized land has brought cooperating farmers to admit the benefit, and has convinced sceptical neighbours of the efficacy of the treatment.

31. Village note books of which one copy is kept by the Inspector of the Sub-District with a duplicate in the possession of village Mukhtars are the medium for the collection of agricultural statistics.

Agricultural implements were loaned to farmers living in the vicinity of agricultural stations, with the result that many of these farmers have acquired similar machinery. The principal deterrent against farmers purchasing agricultural machinery is the shortage of animal power, the high cost, and lack of cooperation.

SCHOOL GARDENS.

32. There are about 300 school gardens attached to village schools which are supervised by the Department of Education. The Agricultural Service issued to most of these gardens, supplies of improved seed and vegetable seedlings. Simple implements were also loaned to those schools, and fertilizers were issued for demonstration purposes. At all schools, attention is also given to horticulture ; while in some, poultry breeding and bee-keeping are included in the curriculum.

The demonstration plots which were established in cooperation with the Department of Education, in villages where there are trained school masters

have been extended. These plots serve a dual purpose of producing a good type of seed grain, and demonstrating a suitable rotation system for the district. At Dura village school the biggest and most enterprising of all, there are 150 dunams farmed in cooperation with the Agricultural Service and sown in a three course rotation to cereals, legumes and summer crops.

THE WORK OF EXPERIMENT STATIONS.

33. During the year under review another station was established at 'Ein 'Arrub mid way between Jerusalem and Hebron on land typical of the surrounding localities. A total area of 300 dunams was purchased of which 200 are exclusively used for agricultural work. The area at Farradiya is being extended by a further 200 dunams. This completes a chain of agricultural stations from Majdal in the south to Farradiya in the north, and covers dry farming in the coastal belt, an irrigation station in the Jordan Valley, and stations in typical farm lands and the hills of the Northern and Southern Districts.

The work carried out at agricultural stations, viz: at Farradiya, Acre, Beisan, Jericho, 'Ein 'Arrub, and Majdal, comprises experimental work, the bulk-production of improved true-to-type seed grain of both indigenous and improved varieties ; the production of vegetable seed and seedlings ; and the raising of grass seed for distribution to local pasture ranges. In the irrigation sections of the stations at Acre, Beisan and Jericho, duty of water experiments are in progress. Very little if any research work in the true sense of the word can be said to be maintained, it is rather experimental.

34. At the main Acre Agricultural Station a power grading machine has been installed capable of an output of a ton per hour.

The total area under crops at all agricultural stations is 2,340 dunams of which 570 are under wheat, 410 under barley, 100 under oats, 670 under leguminous crops, and 590 dunams are under forage and vegetables.

'EIN 'ARRUB.

The agricultural section comprising an area of 200 dunams is situated in the central portion of the station in a wide wadi sloping from east to west.

There is a good depth of red loamy soil rather stony, but typical of that of the surrounding locality and quite suitable for the raising of cereal and leguminous crops, The station will serve as a demonstration farm in a locality where agricultural practices are primitive in the extreme, and as a centre for the distribution of selected and acclimatised seed. A simple rotation system will be adopted.

Considerable work in levelling and terracing to avoid soil erosion and flooding has been done and main drains have been dug. The farm was ring fenced.

Immediately the area was taken over it was summer ploughed preparatory to sowing two thirds of the area with a leguminous crop in the winter, to give some uniformity of soil for future work, after the very mixed crops which had been grown by the previous owners. The remaining third was left for summer crop.

The winter crop is composed of 85 dunams under vetch ; 10 dunams of kersenna ; 5 dunams of grey tares ; 4 dunams of berseem ; and lentils on 20 dunams ; and a forage mixture of 12 dunams.

Due to adverse climatic conditions, germination was irregular, but by the 20th of December, the whole crop was well up. Growth was retarded by the absence of heavy rains, but good soil preparation kept the crop alive until February when growth was rapid. The 'Ein 'Arrub fields were the only ones in the vicinity from which a crop was harvested. The yields from these fields, though not heavy, are given below :—

	Area in dunams	Yield Kgs.
Vetch	73	4140
Grey Tares	5	28
Lentils	19	635
Kersenna	10	180
Berseem	4	46
Hay	12	1500

The grey tares although they showed heavy growth died off. In the section of 57 dunams allotted for the summer crops ; 45 dunams were sown to dura ; 11½ to cucurbitaceous crops and a small plot to tomatoes.

RAINFALL TABLE.

Month	Amount in mm.	Season's Total	No. of rainy Days	Remarks
September	—	—	—	
October	28.5	28.5	3	
November	91.0	119.5	10	
December	8.5	128.0	5	Drought.
January	23.5	151.5	8	Drought continued as the rain fell in quantities of 2-3 mms.
February	262.6	414.1	12	Floods.
March	49.0	463.1	3	Very beneficial.
Total	463.1	463.1	41	

MAJDAL STATION.

This station serves the semi-arid belt of the Gaza area, and is conducted primarily to show the effect of various methods of cultivation on cereal and leguminous crops, and to supply farmers of the sub-district with improved and acclimatised grain.

The cropping plan of the station for 1935 was as follows :—

Area dunams	Kind of crop	Yield Kgs.
17	Oat and Vetch	7,600
50	Barley Hirawi	6,082
50	Wheat Hurani	3,600
25	Wheat Juljuli	1,875
25	Wheat Mughrabi	1,288

Area dunams	Kind of crop	Yield Kgs.	Remarks
20	Linseed	949	
50	Dura	1689	
45	Beans (Ful)	—	Turned under as green manure.
10	Water Melon	—	Failed.
30	Maize	—	,,
30	Sesame	—	,,
3	Potatoes	3000	

Rainfall Table from October, 1935, to April, 1936 :—

October	54.0
November	58.0
December	29.4
January	91.0
February	114.5
March	25.6
April	3.0
Total	375.5 mms.

In the variety section 22 plots of 40 square meters in area were sown to wheat, 15 to barley, 8 to lucerne, and 36 to grasses and forage.

In small plots a test of the value of calcium cyanamide was carried out in randomized block system. An area of ten dunams is devoted to a three year experiment with Chile nitrate of soda applied in varying weights. The area was laid out under the joint supervision of the Superintendent and a representative of the Nitrate Corporation of Chile Ltd.

In the vegetable section the production of tomatoes received the greatest attention.

Four varieties under observation each variety being trellised unpruned, trellised and pruned to a single stem, staked with pruning to a single stem and treated under local conditions. La Mamande and Princess of Wales gave the best results.

In the present season, the area allotted for agricultural work covers 450 dunams divided into three separate farms to demonstrate three distinct rotations in which are included roots, summer crops and a bare cultivated fallow.

The cropping plan for the winter season was as follows :—

Wheat	106	dunams
Barley	78.5	,,
Oat and Vetch	39	,,
Oats	9	,,
Beans (Ful)	42	,,
Lupine	25	,,
Purple Vetch	7.5	,,
Lentils	17	,,
Potatoes	25	,,
Variety Seed	8.5	,,
Vegetables and Grasses	30	,,

A further 100 dunams are reserved for summer crops and 8.5 dunams for the variety section.

The potato field was planted to Sharpes Express, British Queen, May Queen, Arran Pilot, King Edward, Up-to-Date, Irish Cobbler, Green Mountain and Kathedin.

The area was dressed with 2½ tons of stable manure and earlier during the year 100 kilogrammes of lime per dunam had been applied. An application of sulphate of ammonia, superphosphate, and sulphate of potash was also given. The main cereal fields were uniformly treated with a dressing of superphosphate and sulphate of ammonia drilled in with the seed.

During the year a new International Caterpillar tractor, a disc plough, a simplex grain disinfector and a power threshing machine were purchased for the station.

Grain amounting to 13 tons was sold and distributed, 9 tons of straw were delivered to the stock breeding service in addition to all surplus tibn and hay. 208,500 vegetable seedings were given to market gardeners of the neighbourhood.

The expenditure for the station for the financial year was £P.710.—

FARRADIYA STATION.

Negotiations are still being continued with owners to acquire a further 200 dunams for this station. The strong demand for seed from neighbouring farmers cannot be met from the limited area it is possible to put under crop.

The primary object of this station is to provide supplies of selected seed rather than to experiment. A small area is however, set aside for varietal tests on both summer, and winter and miscellaneous crops. The harvest of 1935 after the rigorous winter was much better than was anticipated. Barley yields were exceptionally good and those of wheat well above the average for the hill areas.

The summer crops of maize and sesame were however, again complete failures although the dura and the spring crop of chick-peas was quite good.

The cropping plan was as follows :—

Kind	Area	Yield Kgs.
Wheat	34	2,809
Barley	17	2,550
Oats	5	6,630
Horse beans	10	823
Vetch	17	1,060
Lentils	14	1,063
Berseem	5	100
Kersenna	5	247
Hay mixture	7	4,200
Sesame	3	Nil
Maize	35	437
Dura	20	1,200
Chick peas	10	868

Additional to the main crops eight varieties of wheat, eight of barley, three of lentils, two of vetch, four of linseed and six of maize were sown in half dunam plots. Yields were uniform with the main fields. All grain was despatched to Acre for grading and subsequent distribution. Hay, straw and tibn, surplus to the requirements of the station, were issued to the Stock Breeding Service.

Plots with an area of 1½ dunams were put under Wimmera, Perennial and Italian Rye grasses, and Subterranean Clover. The rye grasses while

showing good forward growth through the winter and early spring could not stand the dry conditions of late spring, but satisfactory results were obtained from the Subterranean Clover.

The 1935/36 season opened with good falls of rain followed by fine spells in November, permitting a thorough cultivation and giving a fine germination of all winter crops.

Fields were dressed with eight kilogrammes of superphosphate and 10 kilogrammes of sulphate of ammonia per dunam with the last ploughing. Owing to the stony condition all sowing is done broadcast and cultivated in.

The cropping plan for winter crops covers 30 dunams of wheat, 7 dunams of oats, 20 dunams of barley, 10 dunams under an oat-vetch mixture, 10 dunams of beans and 17 dunams of lentils, 2½ dunams of grey tares and 2½ dunams of purple vetch.

The generally good distribution of rainfall at this station caused quick strong growth, and at the date to which this report refers, there was every indication that yields would be heavy.

By the first week of March all summer crops had been sown under excellent conditions. This section included five varieties of maize covering 33 dunams, 15 dunams of chick peas and 15 dunams of dura.

During the year a stone house has been built for the agricultural labourers and the section. The total expenditure for the financial year was £P.258.

JERICHO AGRICULTURAL STATION.

Although the levelling of the area is complete it was not possible to put the whole of it under cultivation owing to the shortage of water. The hot weather set in very early, extending from mid April to the third week of October. The absolute maximum temperature recorded was 46.5° on May 2nd.

From a meteorological point of view the only favourable climatic condition was the absence of strong cold winds during the winter. Only 92 mm. of rain fell in the rainy season.

During the year on the 65 dunams which were under cultivation, 28 different crops were grown. Small areas are allotted annually to forage and cereal and miscellaneous crops but precedence is here given to vegetable crops of which 19 types were under observation.

Potatoes.

Eight dunams were planted to this crop.

Varieties tried include Up-to-Date, Majestic, May Queen, King Edward, Arran Banner, Arran Pilot, Sharpes Express, British Queen, Arran Consul and Zahlawi (Syrian).

Virus free tubers of Epicure, De Vernon, Royal Kidney, May Queen and Up-to-Date obtained from the Cambridge research station gave good results, but were re-infected probably through the medium of Chlorita Signata.

All varieties were given similar dressings of manure and fertilizers, and sown at fortnightly intervals from September 15th to February 1st. It has been

determined that inferior results are obtained by planting before October 15th and after December 15th.

Varieties which have given the best results are Up-to-Date and Zahlawi.

Tomatoes.

The area under tomatoes was 6½ dunams from which an average yield of 3 tons per dunam and a maximum of 7 tons were obtained. Seven varieties viz: La Mamande, Princess of Wales, Imperator, Sutton's Sun Rise, Perfection, Large Red and Baladi were planted. It is now apparent that Princess of Wales is most suited to local conditions both as regard quantity and quality. Results go to show that from the last week of August to the last week of September is the most suitable period for planting. Heavy attacks of Halouk (Orobanche spp.) were responsible for slightly depleted yields. Four methods of growing are adopted for comparative purposes, viz:— pruning to the single stem on trellis, pruning to several stems, the Italian trellis system and the local. It is noteworthy that the imported varieties yielded more heavily than the local, and that in the earlier plantings the pruned, staked and trellised vines yielded better results than under the local method, but in plantings from the end of October to the 8th November the yields from the local method were much in excees of the trellis system due to the increased shelter.

Globe Artichokes.

An area of ¼ of a dunam was put under the crop in January 1936. The plants are developing strongly.

Jerusalem Artichoke.

Early spring planting met with complete failure.

Bamia. (Lady's finger).

An area of ½ dunam was planted, but for the third year in succession no successful results have been obtained.

Cassava.

The varieties under trial are Mpera and Bint Osmani covering an area of ½ dunam. Growth is strong, but under-ground development weak.

Onions

Three varieties are under trial. Bermuda Red, Brown Spanish and Crystal, and of the three there is little if any difference in yield to be noted. Returns were heavy, and the vegetables of good size and shape. A fair quantity of seed is being produced.

Broad Bean.

Green Long Pod, Mazagan and local, were the three varieties tried. All were heavily attacked by fungus diseases in the later stages of growth. The crop amounting to 300 kilogrammes from one dunam was sold locally as a vegetable. No plants were left for seed production.

Cabbage.

One dunam was planted to four varieties, Braunschweig, Sutton's Drumhead, Sutton's Main Crop and Sutton's Earliest. Only a moderate crop of one ton of heads was obtained. Early September sowings appeared to give the greatest success.

Asparagus.

Crowns of three varieties were imported from Messrs. Sutton and Son and put down in March 1935. Heavily manured, and planted in soil with a fair proportion of salt, subsequent growth has shown that there is every probability of asparagus being a remunerative crop. No cuttings have yet been made.

Cucurbits.

One dunam was sown to local cucumbers in 1935 over a period of two months at fortnightly intervals.

Heavy attacks of insect pests destroyed the plants. Replanting was done in February and March 1936, and a good germination and growth pointed to better results.

Sweet Potatoes.

For the first year this crop was put down at Jericho the necessary plants being brought from the Beisan Agricultural Station. A good percentage of take was obtained and the crop is developing well.

Eggplant.

The field covers two dunams ; 6 varieties are under trial and in order of priority both as regards yield and demand come Sutton's Long Purple, New York Improved Black, Dwarf Purple, Black Queen (1), Black Queen (2). From the two dunams 8½ tons were obtained from October 1935 to March 31st 1936, and a further 2 tons were expected. The plants were attacked, but not heavily, by fungus diseases.

Pepper.

Two dunams were planted. The three varieties tried were Chinese Giant, Monstrous and Ruby King. Good results were obtained from all.

Cauliflower.

Two tons were produced from the two dunams planted. Of the 6 varieties tried Autumn Mammoth has consistently shown its superiority, with early Giant and Veitches Autumn, a close second. First Crop and Magnum Bonum do not seem to be able to stand up to the climate. From the times of planting plot, the best results have been obtained from transplanting between August 15th and September 15th.

Other Beans.

An area of 1 dunam was planted to four varieties sown at fortnightly intervals from September 1st until November 30th. Climbers which were planted at the same time gave better results than the Dwarf varieties. Of the latter the three varieties under test were Mont D'Or, Sutton's Premier, and Canadian Wonder. The Mont D'Or yielded well, but the two last named varieties will be discarded.

Peas.

A plot of ½ dunam is allotted for 9 varieties of peas of tall, medium and dwarf varieties. No planting after the third week of October can be considered to be economic. Yields from mid season plantings were heavy from Telephon, Best of All, Duke of Albany, Main Crop and Early Giant.

Ground Nuts.

A plot of ½ a dunam was planted in March and lifted in October. The yield of 44 kilogrammes was not promising probably due to an attack by Rhizoctonia Batticola coupled with soil conditions. Further trials are being continued.

Field Crops.

As a demonstration and for supply of seed to the few cereal farmers in the locality, a small area is devoted to production of cereal and forage crops. Ten varieties of wheat were sown on an area of 8 dunams. Yields were the heaviest for the whole country being over 231 kilogrammes to the dunam or 30 bushels per acre.

Barley yields from seven varieties were correspondingly heavy, Abyssinian 12 gave the most prolific yield with 318 kilogrammes per dunam or about 50 bushels per acre.

In the sowing season of 1935, similar varieties were again sown and successful growth points to a good return. All grain was sold or distributed gratis.

Maize.

Frequent trials with at least nine varieties go to show that maize as a grain crop can give no economic returns in this district. The very short period when climatic conditions are suitable is undoubtedly the decisive factor. As green fodder heavy yields can be quickly obtained.

Sorghum.

Four varieties have been grown ; Cowper, Early Ambercane, Early Sumac and Saccaline. Strong growth developed and grain set well. A heavy yield was almost completely destroyed by birds which can find no other suitable food elsewhere in the locality at the time.

Vetch.

Common vetch yielded well in the harvest of 1935, giving 90-100 kilogrammes of seed per dunam. In the sowing season of 1935, purple vetch was tried on an area of two dunams. Every indication is given of a heavy yield.

Crotolaria Jur.

This plant grows very strongly to about 10 ft. it is very suitable as a windbreak, and for manurial purposes. A plot of ½ a dunam is left for seed which however, is always attacked by birds.

Berseem.

Three dunams are allotted annually to this crop, the surplus, after station requirements are met being given to the police. Five cuts are secured annually.

Yields are heavy aggregating 1½ tons per dunam per cut. As there is no dairying industry in the district farmers take but little interest in this crop.

Lucerne.

Four dunams are under lucernes. Provence, Poitou, Hairy Peruvian, Broad Leafed Giant Upright, and five strains of Hunter River from Australia.

The Broad Leafed Giant Upright has only been under trial since late in 1935, but seems to be a faster and more prolific cropper than any of the others. Hairy Peruvian has given otherwise the best results with the Hunter River strains a close second.

Nine cuts per annum can be obtained. Moderately good seed yields have been harvested.

Pigeon Pea.

Plantings are made on the boundaries. The growth is quite good, but local people do not seem to be interested.

The revenue collected from the station during the period under review was £P.164 the expenditure being £P.483.

The revenue could be considerably increased if produce were transported to Jerusalem instead of being sold locally, but transport costs will not permit of this being done.

BEISAN AGRICULTURAL STATION.

The Station is entirely devoted to cereal, leguminous and forage crops grown under irrigation, with a vegetable section in the level area to the north.

The harvest of 1935, was not encouraging. The wheat crop averaged only 120 kilogrammes per dunam or about 14 bushels per acre. The greater part of the barley plus 10 dunams of wheat were destroyed by heavy floods which broke the banks of the main canal.

For the 1935/36 sowing season a very poor rainfall of only 215 millimetres over 33 rainy days, necessitated frequent irrigations during the growing season. Sowing was delayed until mid December to permit of the germination of weeds brought down by the irrigation waters. At the close of January cereal crops in the main fields and experimental plots were in excellent condition. Leguminous crops left a good deal to be desired. At the end of February the rainfall was only 183.5 mm. as compared with 359.8 for the previous year. Irrigation was necessary in March. Leguminous crops made a headway in the spring and results should be good. In the vegetable section only poor results were obtained. Nematodes, poor drainage and inferior soil conditions point to the necessity of a change of position for the section. However, 203,000 seedlings were distributed to farmers.

In the grass section, twenty three varieties showed to advantage. Subterranean clover which is promising at all other stations is a failure here.

In the lucerne section from which 9 cuts are annually secured, the Giant Upright Broad Leaf is outclassing the former favourite Hairy peruvian. The Hunter River strains show promise of being suited to local conditions. Pleasing results are being secured from introductions of soya beans, cow peas, ground-nuts and Jerusalem artichokes. Several areas which show a good deal

of alkalinity are being treated. In general the soil of the station, being a reclaimed swamp, is most difficult to deal with.

Experimental Work.

The principal experiments undertaken are :—

1) Duty of Water Experiment
2) Time of planting "
3) Time of Irrigation "
4) Rotations covering two, three and four years on randomized blocks three times replicated.
5) Fertilizer trials.

Duty of Water.

The crop was local horse-bean. Results were significant and showed that fewer, but heavier irrigations gave better results than light and more frequent applications.

Two plots receiving 75 m^3 per dunam at sowing, immediately before flowering and at setting of the seed gave yields of 115 kilogrammes and 129 kilogrammes of grain as against 88 kilogrammes from a plot only receiving 50 m^3 at similar times. Plots receiving five irrigations of 37.5 m^3 per dunam yielded 15% less. The average yield was 108 kilogrammes with a maximum of 128 kgs. per dunam.

Times of Planting.

The crop under trial was the local horse-bean irrigated three times with 75 m^3 per dunam. Sowings were at fortnightly intervals commencing on 1.11.34. The first sowing gave an increase of 33 kilos per dunam over the second and 115 kilos increase over the last. The maximum yield was 188 kilogrammes with an average of 138 kilogrammes.

Time of Irrigation Experiment.

Again the crop was local horse-bean. Results cannot be taken as definite owing to a cloud burst over the station. The average yield for the plots was 152 kgs. with a maximum of 176 kgs. per dunam. Results were very interesting, but not conclusive.

Rotation Experiments.

The series of rotation experiments in hand although not yet complete, already show significant results. Yields of wheat and maize following a berseem crop have in all cases given heavier yields than in the main fields of the station.

Main Fields.

Yields were only moderate, wheat averaging 120 kilogrammes per dunam barley 180 kilogrammes, beans 90 kgs., vetch 110 kgs., oats 96 and lentils 84 kgs., per dunam. The maize crop was fair giving a gross yield of 10 tons with an average of 242 kgs. per dunam.

Eight varieties were under trial viz : Anveld Boesman, Wisconsin White, Peruvian Yellow, American White Flint, Sahara Yellow, Hickory King and Potchefstroom Pearl. Of the above Hickory King gave the highest return of 334 kilogrammes per dunam.

Sorghums.

Of Cowper, Early Sumac, Saccaline and Early Ambercane, the Early Sumac showed to advantage with 133 kgs., per dunam. A plot of Early Ambercane gave a return of 3½ tons per dunam of green forage.

Fertilizer Trials.

These were only put in hand this season in replicated blocks as a quantitative and qualitative trial. The trial will extend over three years.

Variety Section.

Thirteen varieties of wheats, twelve of barley and three of oats are under observation. Beardless soft grained wheats and Australian hybrids show to advantage.

In the barley field Abyssinian 12 and Hirawi outclass the remainder.

Soya Beans.

The results from four varieties of Soya bean were not altogether disappointing. Two varieties Australian Mammoth Yellow, and Tokio gave yields of 105 and 107 kilogrammes per dunam respectively. It would appear that more varietal work is necessary to secure a strain suitable to Palestine conditions.

Jerusalem Artichoke.

Pleasing results were obtained from American Improved, and Sutton's White. Yields were not up to standard only 2½ tons per dunam being harvested from Sutton's and 3¼ tons from the American Improved. There is but little market for the tubers, not having been popularised as a vegetable.

The cropping plan for 1935/36 season included 24 dunams under wheat (one variety) 32 under barley (three varieties) seven under oats, 14.5 for hay and 21 under leguminous crops.

Vegetable Section.

Owing to the presence of nematodes, the section is now removed to another position.

Cabbage.

Of four varieties tried Erfurt has proved its merits, with Early Drumhead also giving good results.

Tomatoes. Of six varieties under observation La Mamande has given best results under the various systems of pruning and growth.

Eggplant: Of six varieties, Long Purple and Black Queen are most prolific.

Potatoes: Up-to-Date and Zahlawi (Syrian) have given the best of generally poor yields.

Cauliflower: Autumn Giant and Erfurter show to advantage over all others.

Brussels Sprouts.

Sutton's Fillbasket gave heavy returns.

Roots do exceptionally well and heavy crops of carrots, beets and onions have been harvested.

The total revenue for the year excluding grain amounted to £P.51. All surplus hay straw and tibn is transferred to the Stock Breeding section.

A new engine and reaping machine were purchased during the year for this station.

ACRE AGRICULTURAL STATION.

Selection Work and Seed Breeding.

This work has been considerably extended. A large collection of native strains of cereals from all sub-districts has been introduced into the work. The third generation of the first individual selections were sown in plots of 1/15th of a dunam. A seed testing laboratory was established, the first essential equipment purchased and qualitative tests were made as an integral part of the seed breeding work. Rotation experiments were continued. Though this is the first normal year of the rotation, striking differences were already noted between the various rotations. Fertilizer experiments were carried out on a large scale on wheat and hay.

Irrigation Experiments.

Very interesting experiments on irrigation problems (quantities of water applied, and methods of irrigation) were carried out on lucerne, maize and millets. Useful data has been collected.

Improvement of Natural Pastures.

A considerable number of pasture grasses and legumes from various countries was under trial this season. In addition, a few very promising native grasses were collected and grown for study.

Introduction of New Crops:

Mainly forage crops were under study.

Vegetable Section.

The vegetable section was transferred to a new and larger site, enabling a considerable development of the work. Seed breeding, selection work, varietal tests, both on irrigated and rain grown crops, and the introduction of new crops was carried out on an increased scale.

Main Fields.

The season was most unfavourable. Adverse weather conditions during the whole growing season resulted in a reduced yield and a poor quality of grain. The heavy rainfall caused a great setback to crops especially in the heavy soils which were continuously water-logged. Heavy storms accompanied by hail caused considerable damage whilst a long period of dry, hot east winds during the ripening stage had disastrous effects on yields and quality of the crops. Only the summer crops grew under normal conditions.

The total area of 1322 dunams was divided as follows :—

Wheat	363	dunams
Barley	171	"
Oats	40	"
Legumes	313	"
Maize	405	"
Green manure	30	"

Wheat.

The following varieties were propagated :—

a) Juljuli: (145 dunams). No attack of disease was noted and the crop suffered least of all wheats from the Khamsins. Quality of grain fair. Yield per dunam 66.8 kgs.

b) Hurani: (64 dunams). No diseases were noted but suffered from the Khamsins. Small grain. Yield per dunam 77 kgs.

c) Nursi: (129 dunams). This variety suffered most of all from the adverse weather conditions. Quality of grain poor. Yield per dunam 67.7 kgs.

Oats.

a) Kanotta: (20 dunams). Approximately 5% of smut was noted. Yield per dunam 67.7 kgs. Quality of grain good.

b) Red Texas: (20 dunams). Quality of grain fair. Yields per dunam 202 kgs.

Barley.

a) Hirawi: (99 dunams). 6 rowed barley. Gave good quality grain. Yield per dunam 88.5 kgs.

b) 4000: (37 dunams). Plump grain — 4 rowed barley of poor quality suitable for very poor soils. Grain was small and light. Very early maturing. Yield 183.5 kgs.

Legumes.

a) Kersenna: (11 dunams). Suffered exceedingly from water-logged soil. One field was entirely blighted by a wind storm. Complete failure.

b) Vetches: (129 dunams). Suffered from an attack of birds during early vegetation. Quality medium. Yield 52.1 per dunam.

c) Jilbana: (57 dunams). Fine crop. Yield per dunam 75.4 kgs.

d) Peas: (5 dunams). This crop was entirely destroyed by birds.

Maize.

The maize crop was greatly reduced by a devastating attack of grasshoppers. The following varieties were grown :—

a) Wisconsin White: (180 dunams). The yield obtained was 39.7 kgs. per dunam. The variety appears to be more suited for green forage production.

b) Boesman: (125 dunams). This variety is still tolerably pure and gave a very fine stand. Here again, yields were reduced by grasshoppers. Yield per dunam 48.2 kgs.

c) Anveld: (100 dunams). Gave a fair stand but poor yields. Yield per dunam 69.9 kgs.

Wheat.

The variety tests carried out had shown distinct superiority in the yield and quality of the local varieties as compared with varieties imported from abroad. It was therefore decided to develop the selection work on native strains and during a tour in the Northern District, many strains from various native varieties and types were collected. These have been sown by hand, each mother plant separately, and much interesting material is now awaiting analysis.

Selection of Season, 1933/34.

No. of Varieties.	No. of Selections.	Eliminated	
14	591	Unsatisfactory yields	419
		,, quality	21
		Sown season 1934/35	103

Of the 103 selections sown in 1934, the following returns were obtained:—

Eliminated for disease	— none
,, ,, unsatisfactory yield	26
,, ,, quality	20
Sown in season 1935/36	57

In the course of two seasons, out of the 591 original strains only 57 remained, or an elimination of 90.3%.

Selection of Season 1934/35.

During the summer of 1935, in the course of a tour through the Northern District, 452 selections were collected from nine varieties bringing the total number of strains to nearly 2,000.

This material has now been harvested and is awaiting qualitative and descriptive analysis as soon as field operations will permit.

The following new wheats were introduced from abroad this season:—

De Bordeaux Chiddam de Mars, Ble d'Australie, Marquis, Polu de Tarn, Touzelle Rouge, Polish wheat, Gros Bleu, Bladette, Aurore, Vilmorin 29, Peace, Manitoba, Petanielle, Medea, Rietti (bearded), Japhet, Red Prolific, Carlotta Strampelli, Miracle wheat.

In addition the following collection has been received :—

Triticum Durum Expansum (Egypt).
,, ,, Abyssinicum praesintium (Abyssinia).
,, ,, ,, Gondaricum 2 strains.
,, ,, ,, Schweinfurtia
,, ,, Expansion Reichenbachi Korn (Turkey and Asia Minor).
Triticum Fugare Irano Asiaticum Rigidum (Kasakstan) 2 strains.
,, Dicoccum Bayle (Arabia).
,, Durum Expansum Leucomelan (Cyprus).
,, Durum Abyssinica Nigrobrialaceum (Abyssinia).
,, Dicoccum Ctr. Farrum Bayle (Abyssinia).

Triticum Durum Abyssinica Meneliki (Abyssinia).
" " Expansum Leucomelan (Malta).
" " " Affine (Palestine).
" " " Reichenbachi (Malta).
" " " Murciense (Palestine).
" " " Horano Leucorur (Cyprus).
" " " Affine (Cyprus).
" " " Murciense (Egypt).

Barley.

Selection work was carried out on imported varieties as well as on native varieties, during the course of this season.

The following summary gives an idea of the work :—

Of the 267 selections sown during the 1933/34 season 208 varieties were eliminated :

36 for disease and pests.

156 for unsatisfactory results (yields).

16 for unsatisfactory quality.

The remaining 59 were sown in 1934/35 and of them 31 were discarded showing unsatisfactory features.

The remainder were sown during the current season.

In the 1934/35 season 720 selections, mostly from native varieties, were sown of which about three hundred have been discarded.

Rotation Experiments.

This is only the second season during which rotation experiments have been in hand, but already sharp differences can be noted between the various rotations. The influence on yields is very marked, and although no conclusive results can be given the following table is interesting :—

Yields of Wheat in Rotation Experiments :—

After green manure	121 kgs. per dunam.
" hay	97 " " "
" fallow	81 " " "
" maize	56 " " "
" wheat (2 years in succession)	48 " " "

An interesting experiment was also carried out to show effects of the various crops preceding wheat on the yields of the latter.

The area devoted to this experiment had been sown in season 1933/34 with various legumes for seed, hay and green manure, and in 1934/35 the whole area was sown with wheat. Striking differences in growth and yield were noted for the wheat crop, showing the considerable influence of the preceding crop.

The following table summarizes these results :—

All results given in % of the yield obtained on the standard fallow plots:—

Preceding Crop		Juljuli Wheat Yield. in % per dunam.
Beans	Green manure	160.5
Fenugreek	" "	150.1
Fenugreek	" "	146.4
Lupines	" "	126.5
Vetch & Oats Hay		124.6
Vetch & Barley Hay		115.6
Hummus left for seed		90.7
Beans	"	65.9
Fenugreek	"	54.2
Vetches	"	47.8
Lentils	"	39.4
Jilbana	"	38.1
Kersenna	"	26.2

Irrigation Experiments.

Irrigation experiments were commenced with the following objects in view :—

1) To ascertain the correct rate of water for the main fodder crops during the various months of the season and on different soils.

2) To determine the optimum interval between irrigations.

3) To compare various methods of irrigation.

Work was concentrated on the above in relation to a single type of soil, a sandy loam. Crops under trial were lucerne, maize and millets. While no definite conclusion can be arrived at after one year's work very interesting data has already been obtained. The two systems of irrigation used were artificial rain and flooding.

Lucerne Variety Tests.

Three varieties under trial in large areas with 6 replications were Hairy Peruvian; Fratelli, and Pratense. Later in the year six strains of Hunter River and Giant Upright Broad Leaf were added, but no definite results can be given for them.

Nine cuts were taken. Hairy Peruvian gave an average yield of 1 ton 397 kgs. per dunam with a maximum of 1 ton 654 kgs. while Fratelli yielded an average of 1 ton 292 kgs. with a maximum of 1 ton 431 kgs. and Pratense an average of 1 ton 248 kgs. and maximum of 1 ton 338 kgs.

Fertilizer Experiments.

Comprehensive work has been carried out on wheat and hay crops. Due to the exceptional season figures obtained though very interesting cannot be taken as conclusive. All plots were given five replications and had a preceding crop of maize.

Tests on quantitative dressings of nitrogen, phosphoric acid and potash, time of application of nitrate of soda and comparative trials of various nitrogenous fertilizers were made.

The season's results go to show that until very heavy dressings of superphosphate were applied there was but little effect on the wheat crop and that nitrate of soda and nitro chalk show to advantage over sulphate of ammonia; and also that late dressings of the nitrate of soda are very beneficial.

As regards the effect on the hay crop of oat and vetch mixture the dressings of superphosphate show almost a mathematical proportion between the yield and extra dressings.

A small application of potash seems to have a favourable influence on the hay crop, but differences do not warrant the expenditure involved.

Pasture Development.

Work on this subject embraced sowing of introduced grasses on typical pasture land and the study of adaptability to Palestine conditions, and raising of seed. Napoleon's Hill, the site chosen, was sown with three varieties of rye grass, Sheeps Burnett and Subterranean Clover. These grasses germinated but could not be traced the second year in sufficient quantities to give any definite results. In the area set aside for seed raising and study some thirty varieties are growing both under light irrigation and as rain crops. In the leguminous section of the variety field, seven varieties of vetch, eleven of lucerne, and nine of clovers are under observation.

Several varieties of atriplex are under trial and At. Semibaccatum appears to be acclimatising itself.

Appreciable quantities of seed from 13 varieties of millets have been reaped. Both fertilizer irrigation and yield trials have been put in hand. When compared with maize as green forage the average return was 4 tons for the millets as against 4 tons 470 kgs. of Hickory King.

Soya Beans.

Four varieties are under trial as rain grown crop. An Australian variety gave very abundant foliage, but did not set any seed. Tokio and Wilson gave but little foliage and unsatisfactory yields.

The past three years work does not give any indication that there is any future for the crop.

Vegetable Section.

An area of 40 dunams is allotted for this work. Extensive varietal, acclimatisation and seasonal trials are in hand, and seed produced in fair quantities is distributed to other stations and farmers. Varieties showing susceptibility to disease and unsatisfactory yields are discarded.

Cauliflower.

Of the many varieties tried twelve have been found to suit local requirements. German varieties give the best earliest pickings with Sutton's showing to advantage in mid season and late varieties.

Cabbage.

Fourteen varieties all give generally good results. If there is any preference shown it is for Suttons Main Crop. A variety Wisconsin Hollander No. 8 showed a great degree of drought resistance. In the Savoy section Perfection Drumhead was outstanding and among the red sorts Compenhagen Early and Erfurt were best.

Potatoes.

Trials with 12 varieties anually show that Up-to-Date is superior to any others under various methods of fertilizers, irrigation and sowing.

Storage experiments are in hand.

Tomatoes.

Thirty different varieties are under trial, and from exhaustive tests La Mamande, Princess of Wales, Best of All and Burwoods Prize are the four most suited to local conditions.

Lettuce.

There were more failures in the sixteen varieties of lettuce under trial than in any other crop. The outstandingly good varieties are Winter Crop which yielded for over four months, Austins Standard, Webbs Wonderful, New York, and Harrisons Heartwell.

Asparagus.

Crowns of three varieties imported from Sutton have given good results. No crop has yet been cut. Further sowings of seed of a variety Mary Washington were made and crowns transplanted.

Eggplants.

Eight varieties are under trial. The earliest variety Dwarf Purple is not a good yielder. Long purple and Black Queen have given outstandingly good results and seedlings are eagerly sought for.

Peas.

Fifteen varieties are under trial. There is very little to choose between the majority as most have given excellent results.

The outstanding varieties as regards prolificacy in the medium type is Yorkshire Hero, in the dwarf type "Harbinger" and in the taller varieties, Quite Content, Ne Plus Ultra, and Telephon, the last being very popular with market gardeners.

Broadbeans.

Six varieties have been successfully grown. Mammoth Long-pod and Green Gem have given rather better results than the others.

French Bean and Runner Beans.

Twenty three varieties from the United Kingdom and Germany have been under trial and of these Prizewinner Magnum Bonum and Green Gem show the greatest promise.

Carrot.

Of eighteen varieties tried, there are three outstandingly popular and prolific viz: Red Intermediate, St. Valery and Long Red. Short types are not favoured.

Beet.

Of 9 varieties under test, Early Egyptian has proved most suited to local conditions.

Radish.

Ten varieties are under trial. A large sized vegetable is preferred by the local market and English table sorts are not easy to distribute:— Long White and Black Spanish have given the best results and are most popular.

Turnip.

All varieties from the United Kingdom have grown successfuly and there is little to choose between them. Early Snowball perhaps stands out as the favourite.

Onions.

Varieties imported from the Canary Islands, and the United Kingdom have all shown promise. Ailsa Craig, Brown Spanish, and Amarilla can be put in order of priority. Other vegetables grown include spinach, squash, melons and cucumber.

During the period to which this report refers 252,500 seedlings have been distributed and 180 kilogrammes of tested seed.

The expenditure for the agricultural section of the station was £P.1,108.

G. G. MASSON
Chief Agricultural Officer.

METEOROLOGY.

P. S. The summaries for the season June, 1935 to May, 1936 and for the calendar year ending December, 1936, have been included by inadvertence in the Annual Report for the year ending March, 1935.

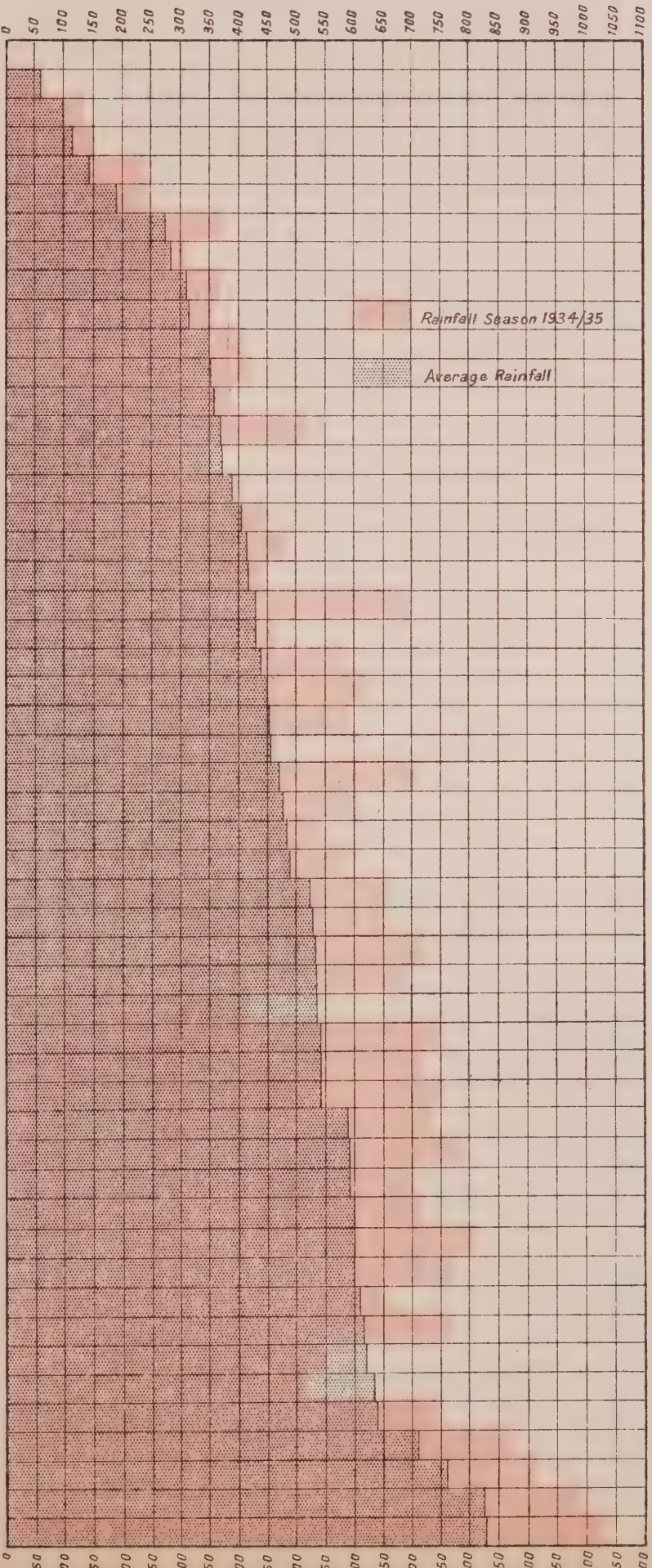
GOVERNMENT OF PALESTINE

DEPARTMENT OF AGRICULTURE & FORESTS

GRAPHIC PRESENTATION OF RAINFALL FOR THE SEASON: JUNE 1934 TO MAY 1935

AS COMPARED WITH AVERAGE RAINFALL

(In Millimetres)



...rage Rainfall		
...tion	No. of Years	Milli-metres
...ea	7	60.1
... Bridge	2	102.5
...	12	116.6
...l Ahmar	3	146.9
...heba	14	192.8
...	9	274.2
...Yūnis	2	285.7
... Husein	2	311.5
...dal	9	316.1
...kh	2	324.2
...r	7	353.1
	2	356.6
...l Sta.	3	370.3
	24	372.5
...á	5	389.2
...a	2	407.0
	10	414.2
...e	8	418.3
...as	31	433.0
...imāl	16	433.9
...l Wād	6	437.4
...ania	6	450.1
...āt Ya'qūb	2	453.5
...emén	15	455.0
	9	470.6
...ma	10	477.3
	14	481.2
	7	488.7
...'Anavim	6	523.0
...le Siyón	10	525.6
...iv	30	531.2
...m	13	533.4
...n	24	534.3
...liya	6	540.5
...a	21	542.7
...Yisraél	38	542.9
...eiziya	2	584.2
	10	587.4
...n Naqūra	2	591.5
...s	13	596.8
...Hasharon	2	600.5
...Saba	2	600.5
...ón Ya'aqóv	7	611.3
...reth	29	616.0
	23	619.1
...alem	37	636.6
...eit	9	641.6
...nawāt	2	712.0
...	12	762.8
...lla	2	824.8
...diya	2	829.2

Rainfall Season 1934/35	
Station	Milli-metres
Dead Sea	62.9
Allenby Bridge	133.0
Jericho	154.0
Khān al Ahmar	241.5
Beersheba	243.5
Beisan	377.0
Khān Yūnis	310.0
Jisr Sh. Husein	371.0
Al Majdal	359.5
Samakh	408.0
Tel-Or	428.1
Rāfāt	376.0
Majdal Sta.	515.0
Gaza	348.1
Gederá	402.7
'Affūla	446.5
Eqrón	479.4
Ramle	445.2
Tiberias	696.0
Beit Jimāl	464.4
Bāb al Wād	575.9
Qalmania	620.0
Jisr Banāt Ya'qūb	585.0
Ben Shemén	454.3
Jaffa	707.0
Wilhelma	601.0
Jenīn	548.0
'Athlīt	584.5
Kiryát 'Anavim	656.9
Rishón le Siyón	646.5
Tel Aviv	718.0
Tulkarm	687.0
Hebron	418.0
Herseliya	749.3
Sarona	717.5
Miqvé Yisraél	753.5
Al Buweiziya	731.0
Acre	784.0
Rās an Nāqūra	700.5
Nāblus	721.0
Ramát Hasharón	812.8
Kefár Saba	766.8
Zikhrón Ya'aqóv	651.6
Nazareth	764.5
Haifa	548.7
Jerusalem	509.2
Bīr Zeit	742.0
Al Manawāt	871.5
Safad	909.5
Metulla	986.0
Farrādiya	1027.5

GOVERNMENT OF PALESTINE.

DEPARTMENT OF AGRICULTURE AND FISHERIES.

TEMENT OF RAINFALL FOR THE SEASON JUNE 1935 TO MAY 1936 AS COMPARED WITH AVERAGE RAINFALL (In Millimetres).

GPP. 1218—1500—10-7-36

Station	June to Sept. 1935	October 1935	November 1935	December 1935	January 1936	February 1936	March 1936	April 1936	May 1936	Total for Season	Average Seasonal Rainfall.	
											No. of Seasons	Millimetres
i Stations:												
	—	50.0	188.0	84.0	73.0	76.5	16.8	8.6	18.5	515.4	11	580.9
	—	29.6	183.5	65.8	85.5	53.1	19.1	13.5	10.9	461.0	24	612.5
	—	22.9	43.1	48.2	73.5	57.8	28.4	7.2	22.2	303.2	15	469.3
i	6.0	72.7	184.4	82.4	68.1	56.7	9.4	7.8	1.2	488.7	31	532.8
I a.	—	35.8	30.8	17.0	34.9	162.5	44.4	18.0	—	343.4	88	633.2
c	—	17.0	15.0	4.5	18.0	13.5	24.0	4.5	—	96.5	13	115.0
	—	62.0	62.7	7.1	18.7	93.6	23.6	4.9	1.1	273.7	25	368.5
a.	Drops	35.0	23.0	—	15.5	41.0	14.0	2.0	—	130.5	15	188.6
nal	3.5	12.5	44.0	31.0	72.2	21.8	27.0	9.0	13,0	236.5	10	270.3
	1.5	15.8	108.5	16.0	24.5	187.8	56.9	15.6	0.5	427.1	17	433.5
fficial Stations:												
..	0.5	78.0	103.0	83.0	91.5	153.0	90.0	26.0	19.6	644.0	3	764.5
Naqura.	3.0	46.0	182.5	86.0	52.5	60.5	15.0	13.0	—	408.5	3	530.5
ya.	—	22.5	130.0	73.0	58.0	120.5	31.5	30.5	6.0	472.0	3	546.8
iat Ya'aqub.	—	14.5	32.5	65.0	45.0	64.0	24.0	13.0	9.0	267.0	3	391.3
	—	32.1	71.6	103.8	75.7	124.4	31.2	21.0	28.3	488.6	13	741.7
ya.	—	23.0	119.0	100.0	84.5	123.0	30.0	16.5	20.5	516.5	3	725.0
.	—	63.0	57.0	35.0	71.5	30.5	15.0	11.0	—	283.0	32	428.3
.	1.5	12.0	46.5	38.0	46.5	23.5	14.5	8.0	5.5	196.0	3	281.5
awat.	—	9.0	188.0	67.5	74.0	97.0	23.0	19.0	7.0	484.5	3	636.2
h.	—	20.2	86.0	131.3	78.5	55.5	34.0	18.5	10.0	434.0	30	609.9
	—	11.0	39.5	47.0	81.7	33.5	40.7	17.5	2.0	272.9	3	362.3
eikh Hussein.	—	25.0	16.0	19.5	55.5	21.0	19.5	8.5	4.0	169.0	3	264.0
	—	81.0	257.0	134.0	58.0	30.0	24.0	3.0	—	587.0	8	501.0
Ya'aqob.	—	43.5	105.5	94.5	62.0	54.5	26.0	20.5	—	406.5	8	585.6
	—	17.5	70.0	47.0	78.0	77.0	38.0	19.0	6.0	352.5	14	579.3
n.	—	14.6	165.9	64.7	93.9	22.5	9.3	9.1	23.4	403.4	14	524.1
myeh.	—	16.0	32.0	15.0	14.0	14.0	18.0	11.0	—	120.0	2	129.7
ia.	—	62.5	153.5	70.5	93.0	47.0	40.5	8.0	5.0	480.0	7	454.4
na.	Drops	65.5	73.6	74.3	89.5	58.5	18.0	9.5	2.0	390.9	11	469.4
t.	—	56.0	51.0	83.0	99.0	121.0	37.0	28.0	—	475.0	10	624.9
ah.	Drops	53.0	65.0	55.0	53.5	158.0	60.5	16.0	—	461.0	2	610.9
emen.	Drops	73.7	64.2	71.9	66.6	62.5	26.5	6.5	—	371.9	16	449.7
	Drops	12.0	146.0	23.0	23.5	115.0	34.5	11.0	—	365.0	3	359.2
	Drops	88.9	126.8	65.4	47.4	62.3	18.7	8.0	1.5	419.0	9	417.9
Wad.	—	42.0	152.0	45.0	58.0	131.0	33.0	7.0	—	468.0	7	441.8
'Anavim.	—	47.9	71.2	43.2	53.7	173.4	49.3	20.0	—	458.7	7	513.9
	5.0	19.0	154.0	137.0	74.5	42.0	7.0	9.0	—	447.5	10	468.3
Yisrael.	0.5	90.6	93.7	120.9	97.5	57.4	14.7	8.7	1.4	485.4	39	541.4
Baba.	0.5	58.0	170.7	63.3	81.5	50.5	38.5	9.0	0.5	472.5	3	557.8
	8.0	17.5	190.0	147.5	76.0	52.0	5.0	9.3	1.7	507.0	22	541.1
	1.1	62.5	208.3	62.7	86.0	39.7	32.0	9.0	1.8	503.1	7	535.1
Hasharon.	0.8	102.7	190.5	59.0	80.8	51.2	33.6	8.6	—	527.2	3	576.1
le Tsiyon.	—	105.0	126.0	84.0	69.0	82.0	24.0	—	1.0	491.0	11	522.4
	2.5	10.0	128.5	45.8	61.2	73.0	19.6	7.5	—	348.1	11	408.2
	1.5	53.5	83.5	41.8	67.3	104.2	17.0	7.1	0.8	403.7	6	391.6
	—	30.0	64.0	11.0	30.0	192.0	42.0	16.4	—	385.4	25	528.3
lal.	—	—	116.5	17.5	67.9	128.0	8.2	—	—	338.1	10	318.3
Station.	—	54.0	58.0	29.4	91.0	114.5	25.6	3.0	—	375.5	4	371.6
Yunis.	—	85.0	28.0	—	12.0	28.0	5.0	—	—	158.0	3	243.1
l Ahmar.	2.0	7.5	7.0	7.0	22.0	40.0	17.0	4.5	—	107.0	4	136.9
Bridge.	—	—	42.0	—	18.0	8.0	16.0	—	—	84.0	3	96.9
	—	27.5	46.5	17.9	67.2	39.7	31.7	11.4	9.2	251.1	8	340.3
a Post.	—	26.8	14.0	2.0	10.3	6.3	10.0	—	—	69.4	8	61.3
.	—	—	—	3.0	3.6	24.0	13.0	—	—	43.5	2	59.2
Zweira.	—	3.0	—	3.0	7.0	59.5	19.0	1.0	7.0	99.5	2	123.3
ra.	—	65.0	2.0	—	25.5	21.0	3.0	—	—	116.5	2	133.7
neh.	—	7.0	17.0	—	22.5	83.0	13.0	—	—	142.5	2	178.0
uj.	—	—	—	6.0	7.0	21.0	14.0	—	18.0	66.0	2	57.5
	—	22.0	77.0	101.0	94.0	110.0	33.0	26.0	10.0	473.0	2	694.7
afir.	Drops	—	—	8.0	25.0	2.5	1.5	—	—	37.0	2	32.5
h.	—	—	20.5	2.5	19.5	104.5	41.0	—	—	188.0	1	188.0
rin.	—	44.0	71.5	11.5	34.5	147.5	22.0	8.0	—	339.0	1	389.0
ub.	—	28.5	91.0	8.5	23.5	262.6	49.0	25.1	—	488.2	1	488.2
ona.	—	47.0	106.8	63.7	60.0	74.3	19.1	8.4	0.9	407.2	1	407.2
or.	—	18.0	56.5	68.2	61.7	30.5	20.0	1.50	—	269.9	1	269.9

s no rain fell.

ANNUAL REPORT

OF THE

FOREST SERVICE — 1935/36.

I. Introduction.

Owing to special circumstances this report is of summary nature. The appendices, however, are as detailed as usual. The outstanding feature of the year was the Government's decisions to constitute an independent Department of Forests as from the 1st April, 1936, and to increase its resources in funds and personnel. The new Department has been placed under the charge of a Conservator of Forests, Mr. G. N. Sale, B.Sc. (Edin), transferred from Mauritius. The title of Mr. Amihud Grasovsky, B.Sc., M.Sc., (Cal.), Ph.D.,(Yale), formerly Senior Forest Officer, has been changed to Assistant Conservator, of Forests. On October 1st., 1935, Mr. A. Lahav, M.Sc., (Cal.), was appointed Assistant Conservator of Forests on completion of a post graduate course at the Imperial Forestry Institute, Oxford A third Assistant Conservator is to be appointed in 1936 and arrangements have been made for Mr. Grasovsky to undergo a post graduate course in forestry at Oxford. As regards professionally trained senior personnel, therefore, the new Department has been launched under favourable circumstances. Much still requires to be done to improve the quality of the junior ranks, but a commencement has been made by inserting provision in the 1936/37 Estimates for two Forest Rangers to take a course of study leave in Cyprus. The Clerical Establishment has been improved by provision of one Head Clerk in Grade 'M' and two additional Clerks in Grade 'O'.

2. With these improvements in personnel there have also been substantial changes in the financial position of the new Department. The vote for Afforestation has been increased in the 1936/37 Estimates from £P.4,000 to £P.10,000 while a progressive expansion has been accepted in principle for a five year period which will bring this vote to £P.13,900 in 1939/40. A novel item has been inserted in the Estimates entitled Research on Soil Erosion in the sum of £P.500 which is expected to be available annually for some years.

3. Forestry will thus be relieved of a number of handicaps under which it has laboured for many years. There still remain, however, certain disabilities requiring elimination or radical readjustment in the near future. These may be summarised as follows :—

(a) The absence of procedure for a rational classification of lands to determine their most economic use and the resultant uncertainty as to which lands are to be dedicated ultimately to forestry purposes.

(b) The delay so far experienced in applying land settlement to forest reserves and waste lands, and the absence of machinery for the determination of forest rights.

(c) The inclusion in the functions of the Forest Department of certain extraneous activities normally unconnected with forestry.

(d) Deficiencies in the calibre and training of the junior establishment.

II. Forest Reservation.

4. Thirty six new reserves were proclaimed during the year with an aggregate area of 37,030 dunams. In total 276 reserves have been gazetted to date with an aggregate area of 739,084 dunams. Details are afforded in Appendix 2. The Zeibaq Reserve, No. 10, 775 dunams has been revised : the Bassat Sheikh Mohammad Reserve, No. 191, 1,571½ dunams, has been revoked : Qaqun Reserve No. 188 — 493½ dunams and the Acre Sand Dunes Reserve No. 2 — 12,225 dunams are to be revoked in the near future ; portions of the 'Arab Subeih Reserve No. 90 — 500 dunams have been allotted to the 'Arab Subeih tribe for cultivation. Allowing for these changes the net figures are 272 Reserves with a total area of 724,019 dunams, i.e. approximately 284 square miles.

5. The reserves gazetted during the year are briefly described as follows :—

Shefa Amr Village, Haifa Sub-District.

Thirty reserves Nos. 241 to 270 with an aggregate area of 32,524 dunams consist of natural hill forests varying in extent from 42 to 15,322 dunams which had been demarcated and surveyed in 1928 with a view to reservation. Owing to the existence of numerous conflicting claims of doubtful validity reservation was not proceeded with. In 1934 Land Settlement operations commenced in the Shefa Amr village lands and immediately resulted in encroachments on the forest areas by numerous individuals in an attempt to enlarge the areas of their claims or to establish new claims. In these circumstances, and as it is anticipated that the settlement will take at least two years to complete, the hill forests have been reserved in order to prevent further encroachment and to safeguard potential ownership rights of the State to them.

Aqiva Reserve No. 271 and Veronica Reserve No. 272.

These are two areas of waste land of 63 and 123 dunams respectively, apparently in Government ownership, situated on precipitous slopes overhanging Tiberias town. In this region soil erosion and flood damages are serious factors which will involve an extensive scheme of reboisement. The two reserves have been terraced and planted during the 1935/36 rainy season on experimental lines and will furnish useful data and experience which should prove of the utmost value when the major scheme is commenced.

Salat et-Tannur South No. 273 and Dhur Allar No. 274.

These reserves are situated in the Bethlehem sub-district and cover 238 and 3,270 dunams respectively. They consist for the most part of rocky hill slopes which are mainly unfitted for cultivation, with a difference in level from top to bottom of 550 metres. With the exception of scattered oak and carob trees most of the forest vegetation with which they were covered at one time had disappeared. It is intended to re-afforest them by artificial planting to protect the soil and conserve rainfall and to produce fuel, small timber, and other products.

Dahr et-Tannur No. 275 and Salat et-Tannur North No. 276.

These reserves which are situated within the Ramle Sub-district are hilly areas of 533 and 240 dunams respectively within the boundaries of Beit 'Itab village. They are covered with natural scrub growth and form a more or

less continuous forest area with Reserves Nos. 62 and 63 where planting has been in progress for some years.

6. In previous reports the difficulties encountered by the Forest Service in implementing the policy of forest reservation formulated in 1926 have been stated in detail. During the year under report those difficulties were aggravated by political conditions resulting in steadily rising land values and increased pressure on the soil for agricultural, building, and not infrequently, purely speculative purposes. Some 73,000 dunams have been surveyed with a view to reservation and about 150,000 dunams of hill forest areas in the Acre and Safad Sub-Districts ought to be reserved for a variety of reasons. Opposition on the part of the villagers has, however, hardened and claims have multiplied to such an extent that it now appears that the Forest Department should suspend all further attempts to constitute new reserves until state ownership has been determined by Land Settlement, the land classified as to its most appropriate use, and such of it as is appropriate for dedication to forestry is made over to the control of the Department as state forest. The adoption of this view will relieve the Department of all further attempts to deal with innumerable claims by temporary agreements with villagers having no binding legal effect. On the other hand unless Land Settlement is expedited, it is certain that not only will forest destruction in unreserved areas rapidly increase, but also the very people who cause the destruction will in all probability be able to establish claim to the land they have encroached.

III. Demarcation and Survey.

7. The position is almost equally unsatisfactory with regard to demarcation and survey. There is little inducement to continue spending money, time, and effort on these operations when they may have to be repeated in some years' time when Land Settlement reaches the areas concerned. With this contingency in view the volume of demarcating and survey work done in regard to new reserves during the year, as shown in appendix 3 was less than in previous years. Forest Surveyors however have been fully employed in surveying plantation areas and in the preparation and copying of maps for use at Headquarters and issue to the field staff. As usual they have also been called upon to spend a substantial part of their time on various services carried out on behalf of other technical sections of the Department of Agriculture and Forests. In future owing to the creation of the new Department of Forests, this practice will be discontinued.

IV. Protection.

(a) *Changes in the Forest Law.*

8. There have been no changes during the year.

(b) *Forest Offences.*

9. Details are afforded in appendix 20 — 1,410 persons were prosecuted compared with 2,203 last year. Convictions were obtained against 1,111 persons and fines totalled £P.866. Three cases were compounded. A marked feature was the increase in contraventions arising out of land encroachments which numbered 306.

(c) *Fires.*

10. No fires occurred in Forest Reserves, a very satisfactory results largely attributable to the vigilance of Forest Guards.

(d) *Grazing.*

11. There were 120 cases of illicit grazing. Licences to graze cattle in Forest Reserves were issued to 946 rightholders who grazed 69,720 domestic animals, as shown in appendix 16. Licences to non-rightholders were issued to 7 persons only who grazed 1,079 animals. Parts of two forest reserves where budding of wild carob trees is being carried out were declared "closed forest areas" during the year. The numbers of closed areas at the end of March was 37 with a total area of 27,342 dunams or 2.8 per cent of the area of reserves.

(e) *Fencing.*

12. Appendix 7 shows the amount of fencing erected. Of the nine areas fenced eight are small road-side amenity plots and one is a Forest Reserve of 63 dunams on the Tiberias hills.

(f) *Soil Erosion.*

13. A number of observers have been appointed, including officials and private individuals, to submit reports on soil erosion and flood damages occurring in the localities in which they reside. These reports are proving of considerable value as the basis of a general survey of the extent of these factors.

14. Experimental anti-erosion measures were further developed in plantations on the Tiberias hills. Several terraces of different types were constructed to test their efficiency and relative costs. In future, experimental work of this kind, hitherto charged to the Afforestation vote, will be done under a new item in the Estimates entitled "Research on Soil Erosion."

(g) *Sand Drift.*

15. As the Acre Sand Dunes have been made over to a private concern by Government, sand dune experimental work in this area has been discontinued. At Gaza work was continued with promising results but it is understood that a part of the area under treatment is under consideration for building purposes. A small scheme is in progress to test the possibilities of arresting internal sand drift over the Beersheba — Asluj road by planting and protection of desert vegetation.

V. Natural Regeneration.

16. In protected forests reserves a remarkable improvement of growth from coppice shoots is general. Natural regeneration from seed of *Pinus halepensis* and *Acacia cyanophylla* has been reported in a number of Reserves.

VI. Seeds and Plants.

17. Propagation of plants was carried out at 14 nurseries, the number raised being approximately 1¼ million, including forest and ornamental species as well as carobs. Appendix 13 shows the distribution of plants. The nursery on the Acre Sand Dunes was abandoned and a new nursery has been organised on Government land at the Acre Stock Farm. This nursery has been fenced and equipped with a permanent water supply and buildings and placed under charge of a resident Superintendent. A permanent nursery on similar lines was started somewhat later in the year on Government land adjoining the Ras el 'Ein Pumping Station, also under the charge of a resident Superintendent. The small nursery at Nablus was made over temporarily to the Sericultural Service

for the growing of mulberry trees. Seeds have been obtained by purchase locally and abroad and by exchange, and considerable quantities have been collected by the field staff from plantations. Details are furnished in appendices 22 to 25.

VII. Afforestation.

(a) *Government.*

18. Planting and replanting was carried out at 32 places, details of which are shown in appendix 8. Five of the plantation areas were newly taken up for planting during the year ; at the remainder the work done was in extension of planting standard during different years. At most places weather conditions were satisfactory and very fair results are anticipated. At Tiberias and in the Hebron plantations planting had to be suspended through failure of the rains.

(b) *Private.*

19. Plantations formed by private agencies during the year numbered 126 with a total area of 3,113 dunams. This brings the total to the end of the year to 1,059 plantations covering 35,301 dunams. Many of them are small wood-lots planted at settlements .

VIII. Amenity Planting.

20. A good deal of time, effort, and expenditure has been devoted to amenity planting which in other countries is generally outside the scope of a Forest Department. Decorative plants have to be raised at forest nurseries and their propagation and distribution to the public and to Governmet departments involve a great deal of time and detailed work. In addition the Service has been called upon to advise on the lay-out and planting of gardens attached to Government properties and to provide labour and supervision of the operations involved. The road-side planting vote is included in forest estimates and nine new schemes were undertaken in cooperation with the Horticultural Service. Details of these are shown in appendix 9. Maintenance and improvements to 10 schemes started in the previous year had also to be carried out. As regards amenity schemes at Government properties the Service was concerned in 30 cases as well as with Government House Grounds. Work of this kind requires special training and experience not normally possessed by the Forest Officer and is done, moreover, at the expence of legitimate forestry duties. It has increased to such an extent in recent years as to warrant the formaion of a small specialised branch. Alternatively, functions of this nature should be transferred to the Horticultural Service of the Department of Agriculture and Fisheries. Amenity and reclamation planting work was continued by the Department of Railways on the lines described in the last report. The District Engineer, Mr. F. H. Taylor, raised some 67,000 plants at railway nurseries at Lydda and Kantara and planted 65,000 on railway land for the protection of embankments against erosion and sand drift and for decorative purposes.

IX. Working Plans.

21. No working plans have been drafted but in some reserves felling is regulated under a simple system of annual coupes with coppice regrowth. The appointment of three professionally trained Assistant Conservators of Forests should make it possible to commence preparation of working plans in the near future.

X. Exploitation.

22. There has been no charge in the system of exploiting Forest Reserves by licences issued to licensees who extract produce as right-holders for domestic purposes or as traders for purposes of sale. Licences continued to be issued over the signature of District Officers of the Administration after reference to Forest Rangers. Detailed information regarding the numbers and kinds of licences issued, the quantities and value of the produce extracted, etc. are afforded in the relevant appendices. The value of produce extracted from Reserves by right-holders was approximately double that extracted for trade purposes.

23. Revenue amounted to £P.5,080 being £P.450 more than the previous year. With the exception of some £P.142 the bulk of the revenue was realised on licence fees, £P.4,395 being derived from fees on sales from privately owned forest, and £P.538 only on produce extracted from Reserves.

XI. Research.

24. Work was continued on similar lines to those reported last year, the principal items being :—

(a) Experimental thinning of *Eucalyptus rostrata* plantations at Acre.

(b) Introduction and trial of Exotics.

(c) Anti-soil erosion measures on the Tiberias Hills.

(d) Botanical Investigations.

(e) Nursery Investigations.

(f) Methods of planting and sowing in plantations.

(g) Treatment of insect pests and diseases.

XII. Propagation and Budding of Carob Trees.

25. Activities under this head refer to the raising of carob seedlings and budded plants at forest nurseries, the planting of carob demonstration plots, and the budding of wild carob trees in forest reserves.

Carob plants raised at nurseries during the year numbered 67,000 which were distributed as follows :—

Issued gratis to the Public and other Government Departments	19,000
Planted in Government Plantations	30,500

As a result of experience gained during the past few years it has been found preferable not to hold seedlings at nurseries until they are large enough to bud, i.e. 2 to 3 years. The percentage of "take" is small and the root and shoot development is too rapid for the seedlings to be kept in anything but large receptacles, while maintenance of the plants over the period required is expensive. One year seedlings planted out in the field make more rapid growth before and after budding and can be more successfully budded than plants grown in tins at nurseries.

Carob seedlings were planted departmentally at the following plantations :—

Plantation	No. of Plants
Balad esh-Sheikh	2,000
Meirun	3,000
Tiberias South	1,000
Ard el Jardon	500
Maddad	800
Aqiva	200
Veronica	200
Yafa	5,000
Qafza	2,000
Jabal Sasha	10,000
Acre Sand Dunes	800
Deir Nakhkhas	2,000
Dahr Abu Mehaya	3,000
	30,500

12,000 wild carob trees were budded in 10 Forest Reserves with Cyprus and local budwood.

XIII. Olive Propagation.

26. Details of olive planting by the Public are shown in appendix 18. Direct issue of ungrafted wild olive suckers to villages where they are not obtainable in the Forest Reserves is being discontinued as it was found from experience that villagers take little interest in small ungrafted plants. The vote for this purpose is now being utilised differently and the suckers are first sent to Horticultural Stations where they receive irrigation and cultivation and are grafted with good types ; they are then issued gratis or at very cheap rates.

F. J. TEAR

Deputy Director of Agriculture and Forests.

(Conservator of Forests).

28th May, 1936.

LIST OF APPENDICES.

1. Forest Legislation 1935/36.
2. Forest Reserves gazetted during the period 1925/26 to 1935/36.
3. Demarcation and Survey of Forest Reserves and Forests proposed for reservation, 1935/36.
4. Schedule of Forest Reserves demarcated and surveyed to 31st March, 1936.
5. Survey of Departmental Forest Plantations, 1935/36.
6. Schedule of Surveys, etc. undertaken by Forest Surveyors for Other Services, 1935/36.
7. List of Fences erected by the Forest Service during 1935/36.
8. Schedule of Government Plantation Areas, 1935/36.
9. Schedule of Road-Side Planting Plots, 1935/36.
10. Stock at Government Forest Nurseries at 1st October, 1935.
11. Private Forest Plantations formed during 1935/36.
12. Schedule of Private Forest Plantations as at 31st March, 1936.
13. Plants issued and sold from Governmet Forest Nuseries, 1935/36.
14. Statement of Total Forest Production, 1935/36.
15. Animals licensed to graze in Forest Reserves, 1935/36.
16. Forest Licences issued during 1935/36.
17. Forest Revenue by Categories of Produce, 1935/36.
18. Olive Propagation, 1935/36.
19. Balance of Trade in Forest Products, 1935/36.
20. Forest Offences, 1935/36.
21. Statement of Expenditure, 1935/36.
22. List of Exotics introduced, 1935/36.
23. List of Seeds from Exchange Bureau, 1935/36.
24. List of Plant Material collected and purchased locally, 1935/36.
25. List of Plant Material Collected in Palestine, 1935/36.

APPENDIX 1.

FOREST LEGISLATION, 1934/35.

Under the Forests Ordinance, 1926	Notice, Regulation, Proclamation etc.	Palestine Gazette	
		No.	Date
Declaring Forest Reserve No 103 and a part of Forest Reserve No. 97 to be "Closed Forest Areas".	Declaration	511	9- 5-35
Proclaiming Forest Reserves Nos. 241 to 270.	Proclamation	547	31-10-36
Proclaiming Forest Reserves Nos. 271 and 272.	Proclamation	549	7-11-35
Proclaiming Forest Reserves Nos. 273 to 276.	Proclamation	558	26-12-35
Proclaiming the cancellation of declaration of Forest Reserve No. 103 as "Closed Forest Area".	Proclamation	558	26-12-35
Declaring Forest Rcserve No. 106 to be "Closed Forest Area".	Declaration	558	26-12-35
Declaring Forest Reserve No. 83 to be "Closed Forest Area".	Declaration	561	9- 1-36

APPENDIX 2.

FOREST RESERVES GAZETTED DURING THE PERIOD 1925/26 — 1935/36.

District and Sub-District	Gazetted dring the period 1925/26—1934/35		Gazetted during 1935/36		Total at 31st March, 1936	
	No. of Reserves	Approximate Area in Dunums	No. of Reserves	Approximate Area in Dunums	No. of Reserves	Approximate Area in Dunums
NORTHERN DISTRICT						
Haifa	50	98,823	30	32,524	80*	131,347
Acre	13	77,904	—	—	13	77,904
Nazareth	36	85,436	—	—	36	85,436
Tiberias	15	16,976	2	186	17	17,162
Nablus	9	81,805	—	—	9	81,805
Jenin	23	229,000	—	—	23	229,000
Tulkarm	6	9,138	—	—	6**	9,138
Safad	4	6,664	—	—	4	6,664
Total Northern District	156	605,746	32	32,710	188	638,456
SOUTHERN DISTRICT						
Jerusalem	9	9,384	—	—	9	9,384
Bethlehem	1	400	2	3,547	3	3,947
Ramallah	3	1,300	—	—	3	1,300
Jericho	1	3,500	—	—	1	3,500
Ramle	16	12,706	2	773	18	13,479
Hebron	52	36,960	—	—	52	36,960
Gaza	2	32,058	—	—	2	32,058
Total Southern District	84	96,308	4	4,320	88	100,628
GRAND TOTAL	240	702,054	36	37,030	276	739,084

* Includes one Reserve regazetted—775 dunums.

**Includes one Reserve No. 191 of an area of 1,571.5 metric dunums which has been revoked.

DEMARCATION AND SURVEY OF FOREST RESERVES AND FORESTS PROPOSED FOR RESERVATION, 1935/36

Name	No. of Forests	Area of Forests	No. of Cultivated Plots	Area of Cultivated Plots	Area of Plantation	Total Area	Length of External Boundaries in metres	No. of Boundary Marks	Serial No. of Reserve	Observations
		in metric dunums								
Khallet el-Amir	1	1,207	2	17	—	1,224	8,000	48	102	Old Reserve demarcated and surveyed.
Aghur	1	460	—			460	3,800	20	106	— do — (Carob budding area.)
El-Khami	2	2,753	2	112	—	2,865	10,900	70	104	— do —
Abu Mudawwar	2	765	—	—	—	765	7,690	36	105	— do —
Aqiva Forest	1	63	—		63	63	1,400	19	271	New Reserve demarcated and surveyed.
Veronica Forest	1	123	—	—	123	123	1,500	19	272	— do —
Wa'aret Shenna	2	15,851	11	256		16,107	43,000	173	135	Old Reserve demarcated and surveyed.
Ilmikman	7	1,141	1	25	—	1,166	10,000	90	91	— do —
El-'Arid	1	516	2	7	—	523	5,400	38	196	— do —
El-'Assi	1	656	3	84	—	740	6,000	58	197	— do —
Esh-Shaghur	1	381	—	—	—	381	2,700	26	198	— do —
'Arab es-Subeih	3	3,204	21	517	—	3,721	14,000	54	90	— do —
Jalil	1	12,061.3	53	2,380.7	—	14,442	110,000	333	7	— do —
Wadi el-Qarn	1	7,398.2	7	33.8	—	7,432	45,000	147	6	— do —
Merda	1	1,423.6	1	3.4		1,427	7000	12	97	— do —
Sindyana	7	4,252	7	80	—	4,332	40,000	258	11	— do —
	33	52,255.1	110	3,515.9	186	55,771	316,390	1,401		Computation of areas not yet complete, the area given here is approximate.

APPENDIX 4.

SCHEDULE OF FOREST RESERVES DEMARCATED AND SURVEYED TO 31st. MARCH, 1936.

Sub-District	No. of Proclaimed Reserves	Number of Reserves		Balance Awaiting Demarcation or Survey or Both
		Demarcated and Surveyed	Demarcated only	
Haifa	79	79	—	—
Acre	13	8	—	5
Nazareth	36	23	—	13
Tiberias	17	17	—	—
Nablus	9	—	—	9
Jenin	23	1	—	22
Tulkarm	6	5	—	1
Safad	4	1	—	3
Jerusalem	9	9	—	—
Bethlehem	3	3	—	—
Ramallah	3	1	—	2
Jericho	1	—	—	1
Ramle	18	18	—	—
Hebron	52	49	—	3
Gaza	2	2	—	—
Total	275	216	—	59

APPENDIX 5.

SURVEY OF DEPARTMENTAL FOREST PLANTATIONS, 1935/36.

SOUTHERN DIVISION.

No.	Name of Plantation	Area Surveyed in Metric Dunams	Observations
	SOUTHERN DISTRICT		
1	Jabal Harsis	30	In Forest Reserve No. 202
2	Safhat Wad 'Ali	30	In Forest Reserve No. 167
3	Khan el-Ahmar	21	Experimental plantation
4	Khan el-Abyad	5	Experimental plantation
5	Wad el-Quff	15	In Forest Reserve No. 152
6	Deir Nakhkhas	317	In Forest Reserve No. 75
7	Um Safa	15	In Forest Reserve No. 55
8	'Ajjur	100	In Forest Reserve No. 77
9	Qarn ed-Dibeh	25	In Forest Reserve No. 61
10	Khirbet Rabi'	50	In Forest Reserve No. 58
11	El Ghusheina	30	In Forest Reserve No. 64
12	Abu Luweiz	30	In Forest Reserve No. 79
13	Batn Mheisen	221	In Forest Reserve No. 83
14	Gaza Sand Dunes	200	In Forest Reserve No. 121
15	Jebalya Sand Dunes	171	In Forest Reserve No. 122
	Total	1,260	

SCHEDULE OF SURVEYS, ETC. UNDERTAKEN BY FOREST SURVEYORS FOR OTHER SERVICES, 1935/36.

No.	Name of Area	Nature of Work	Area in Dunums	No. of Plots	No. of Days Spent	Service Concerned
1	Arrub Horticultural Station	Preparing of a contour map for terracing purposes.	70	1	11 days by one surveyor	Horticultural
2	Arrub Agricultural Station	Laying out channels for drainage and preparing a contour map for drainage purposes.	250		15 days by one surveyor	Agricultural
		Preparing map of longitudinal and cross section of a length of 1,300 metres.			3 days by one surveyor	,,
		Preparing a detailed map of plots.		29	3 days by one surveyor	,,
3	Dura Agricultural School	Survey of boundaries and details of plots.	145	18	6 days by one surveyor	Administration
4	Tiberias Kharab el-'Awamid	Topog. and contour map of Kharab el Awamid, Tiberias.	270	1	30 days by one surveyor	The Men of the Trees.
5	Citrus wall map	Preparation of 6 copies of citrus map.			9 days by one surveyor	Agricultural
		Total :	735	49	77 days	

Schedule of Levelling work in forest nurseries and reserves performed during the year 1935/36.

No.	Name of Area	Nature of Work	Area in Dunums	No. of days spent
1	Tiberias nursery	Levelling for terracing drawing of proposed terraces.	12	6 days one surveyor
2	Ras el 'Ein nursery	Levelling of area	43	2 ,, ,, ,,
3	Wad el-Quff nursery and vicinity	Contour and detailed map of cultivated plots, owners, rocky land, etc.	150	7 ,, ,, ,,
		Total :	205	15 days

LIST OF FENCES ERECTED BY THE FOREST SERVICE DURING 1935/36.

No.	Name of Plantation	Length of Fence in Metres	Approximate Area Fenced in metric dunums	Situation	Observations
1	Mujeidal	400	7.500	West of the Nazareth — Haifa main road near Kilometre 160	Roadside planting
2	Lubya	300	5.000	South of the Tiberias — Nazareth main road	" "
3	Sinjel	280	4.900	East of the Ramallah — Nablus road	" "
4	El-Baha	280	4.900	South of the Beersheba — Gaza main road	" "
5	Abu Zweiqa	278	4.788	West of the Beersheba — Jammama road	" "
6	Umm Sira	280	4.900	North of the Beersheba — Al-Imara road	" "
7	Malha	300	5.000	North of the Beersheba — Ras Zuweira road	" "
8	Es-Satar	300	5.625	Khan Yunis village	Mainly fruit trees
9	Aqira Forest Reserve No. 271	1,550	63.000	Tiberias vicinity 2 Kilometres West of the town	

SCHEDULE OF GOVERNMENT PLANTATION AREAS, 1935/36.

Serial No.	Name of Plantation	Situation	Year Planting Commenced	Total Area in dunams	Planted up to 1934/35	Newly Planted in 1935/36	Replanted in 1935/36	No. of Trees Planted in 1935/36 by species.
1	Meirun Forest Reserve No. 235.	Safad Sub-District near Meirun Village adjoining the Safad-Acre Road.	1934 35	1,964	297	103	147	*Ceratonia siliqua* 4,000 plants. *Cupressus horizontalis* 2,000 " " *pyramidalis* 21,000 " *Pinus halepensis* 22,000 " *Robinia Pseudacacia* 1,000 " 50,000 "
2	Napoleon's Hill State Domain.	Acre Sub-District on Acre Stud Farm Lands, adjoining the Acre-Safad road.	1933/34	93	75	18	75	Divided into 10 plots approximately 9 1/3 dunams each. Plot No. 8 planted with 1,364 plants. " " 6 " " 1,025 " " " 3 " " 2,500 " " " 2 " " 2,300 " " " 1 " " 1,700 " " " 4 " " 1,200 " " " 9 " " 587 " " " 10 " " 2,715 " Plot No. 5 was resown with 8 kgs. *Pinus pinea*
3	Maddad North Forest Reserve No. 199.	Tiberias Sub-District about 4 kilometres north of Tiberias, adjoining the Tiberias-Migdal Road.	1929/30	490	153	337	—	*Acacia cyanophylla* 45,000 plants. " *decurrens* 4,000 " " *arabica* 1,000 " " *seyal* 200 " *Cupressus pyramidalis* 1,000 " *Parkinsonia aculeata* 1,000 " *Ceratonia siliqua* 370 " 52,570 plants.

4	Tiberias South Forest Reserve No. 190.	Tiberias Sub-District on the hills opposite the Tiberias Hot Baths.	1927/28	1,447	235	225	150	*Acacia cyanophylla*	65,000 plants.
								" *decurrens*	6,000 "
								Parkinsonia aculeata	5,000 "
								Cupressus pyramidalis	1,000 "
								Ceratonia siliqua	370 "
									77,370 "
5	Ard el-Jardon Forest Reserve No. 201.	Tiberias S/D about 5 kilometres south of Tiberias town on hills opposite Tiberias-Samakh main road.	1927/28	188	159	29	—	*Acacia cyanophylla*	14,000 "
								" *decurrens*	4,000 "
								Parkinsonia aculeata	2,500 "
								Cupressus pyramidalis	1,000 "
								Ceratonia siliqua	370 "
									21,870 "
6	Aqiva Forest Reserve No. 271.	Tiberias S/D, 2 Kms. west of Tiberias Town.	1935/36	63	—	63	—	*Acacia cyanophylla*	2,000 plants.
								Ailanthus glandulosa	6,000 "
								Melia azedarach	600 "
								Acacia seyal	50 "
								Cassia fistula	50 "
								Ceratonia siliqua	200 "
								Dodonea viscosa	50 "
								Parkinsonia aculeata	100 "
								Prosopis yuliflora	80 "
								Robinia pseudacacia	100 "
								Pinus halepensis	2,000 "
								Dalbergia sissoo	100 "
									11,300 "

Serial No.	Name of Plantation	Situation	Year Planting Commenced	Total area in dunams	Planted up to 1934/35	Newly Planted in 1935/36	Replanted in 1935/36	No. of Trees Planted in 1935/36 by species		
7	Veronica Forest Reserve No. 272.	Tiberias S/D, 2 Kms. south-west of Tiberias town.	1935/36	123	—	123	—	*Acacia cyanophylla*	7,000	plants.
								Ailanthus glandulosa	12,000	"
								Melia azedarach	6,000	"
								Acacia seyal	100	"
								Cassia fistula	50	"
								Ceratonia siliqua	200	"
								Dodonea viscosa	100	"
								Parkinsonia aculeata	200	"
								Prosopis juliflora	80	"
								Robinia pseudacacia	200	"
								Cordia myxa	2	"
								Cercis siliquastrum	10	"
								Tetraclinis articulata	5	"
								Ficus sycomorus	3	"
								Laurus nobilis	5	"
								Gleditchia triacanthos	10	"
								Celtis australis	5	"
								Tecoma stans	5	"
								Rotema roetam	23	"
								Pinus halepensis	3,600	"
								Dalbergia sissoo	100	"
									29,711	"
								37 different kinds of seeds were sown *in situ*.		
8	Yafa Plantation, Forest Reserve No. 230.	Nazareth S/D on the hills facing the plain of Esdraelon adjoining the Balfour Forest.	1933/34	614	368	125	--	*Eucalyptus camaldulensis*	1,870	plants.
								Acacia cyanophylla	7,000	"
								Ailanthus glandulosa	2,040	"
								Carobs	8,600	"
								Cupressus pyramidalis	6,000	"
								Melia azedarach	4,870	"
								Pinus halepensis	10,000	"
								Robinia pseudacacia	7,865	"
									48,245	"
								15 dunams were sown with *Quercuas aegilops*.		

9	Dahr Abu 'Abdallah Forest Reserve No. 229.	Nazareth S/D on the hills facing the plain of Esdraelon adjoining the Nazareth-Affula main road.	1933/34	140	120	20	30	*Pinus halepensis* *Melia azedarach* *Acacia cyanophylla* 10 dunams were sown with *Quercas aegilops*.	5,000 plants. 1,000 " 1,000 " 7,000 "
10	Aqaba Forest Reserve No. 215.	Nazareth S/D about 3 Kms. south of Nazareth town adjoining the Nazareth-Affula main road.	1932/33	316	—	—	Replanting	50 kgs. of *Quercas aegilops* were sown.	
11	Jabal Qafza Forest Reserve No. 206.	Nazareth S/D on the hills facing the plain of Esdraelon east of Jabel Qafza.	1934/35	602	200	—	Replanting	*Pinus halepensis* *Cupressus horizontalis* Carobs *Ailanthus glandulosa* *Acacia cyanophylla* *Robinia pseudacacia* *Melia azedarach*	3,000 plants. 3,000 " 2,000 " 1,000 " 1,000 " 2,000 " 1,000 " 13,000 "
12	Jabal Sasha Forest Reserve No. 237.	Nazareth S/D on the hills facing the Plain of Esdraelon, 1 km. north of Iksal village.	1935/36	350	—	350	—	*Acacia cyanophylla* *Ailanthus glandulosa* Carobs *Cupressus horizontalis* " *pyramidalis* *Eucalyptus rostrata* *Melia azedarach* *Pinus halepensis* *Robinia pseudacacia*	6,000 plants. 10,000 " 10,000 " 7,000 " 4,000 " 3,000 " 8,000 " 35,000 " 5,000 " 88,000 "
13	Sertaba Forest Reserve No. 95.	Nazareth S/D 7 kms. south of Nazareth town, 2 kms. south of 'Ein Mahil village.	1926/27	1,620	332	—	25	Resown with *Quercus aegilops*	

Appendix No. 8. (*Continued*).

Serial No.	Name of Plantation	Situation	Year Planting Commenced	Total area in dunums	Planted up to 1934/35	Newly Planted in 1935/36	Replanted in 1935/36	No. of Trees Planted in 1935/36 by Species
14	Baharan Forest Reserve No. 132.	Nazareth S/D 3 kms. north west of Nazareth town near Ailut vilage.	1927/28	663	553	—	Replanted	5,000 plants were planted to refill blanks.
15	Ras 'Amer West, Forest Reserve No. 216.	Tulkarm S/D 10 kms. south of Tulkarm town adjoining the main road to Qalqilia.	1932/33	93	93	—	6	
16	Ras 'Amer East Forest Reserve No. 217.	do.	1935/36	228	—	100	—	
17	Um Safa Forest Reserve No. 55.	Ramallah S/D Um Safa.	1924/25	402	402	—	Replanted	An area of 2 metric dunams was given up to the Police Station. The following trees were replanted :— *Pinus halepensis* 2,500 plants. *Acacia cyanophylla* 500 " *Robinia pseudacacia* 200 " *Ceratonia siliqua* 250 " 3,450 "
18	Bab el-Wad Forest Reserves Nos. 167, 151 and 202.	Jerusalem S/D on the Jerusalem-Jaffa Road between kms. 19 and 24.	1926/27	2,352	2,352	—	Replanted	The plantation consists of 3 Forest Reserves at which planting was commenced in 1926/27, 1928/29 and 1931/32. During 1935/36 replanting of failures only was required.
19	Wad el-Quff Forest Reserves Nos. 152 and 153.	Hebron S/D at km. 40 on the Hebron-Beit Jibrin road.	1926/27	834	834	—	Replanted	The plantation consists of 2 Forest Reserves. No new areas were planted. The following plants were replanted :— *Acacia cyanophylla* 1,000 plants. " *pycnantha* 1,000 " *Pinus halepensis* 3,000 " — 5,000 "

20	Deir Nakhkhas Forest Reserves Nos. 185, 186, 187 and 75.	Hebron S/D at km. 52 on the Hebron-Beit-Jibrin Road.	1932/33	2,091	1,774	317	Replanted	The plantation comprises four Forest Reserves covered with a good natural forest. The following species were planted and replanted :— *Pinus halepensis* 40,000 plants. *Cupressus pyramidalis* 10,000 " " *horizontalis* 10,000 " *Ailanthus glandulosa* 2,000 " *Acacia cyanophylla* 2,000 " " *pycnantha* 4,000 " *Pinus canariensis* 630 " *Argania sideroxylon* 18 " 68,648 "
21	Ajjur Forest Reserves Nos. 75 and 77.	Hebron S/D within the boundaries of Ajjur village.	1934/35	679	679	—	Replanted	The plantation consists of two Forest Reserves. No new area was planted this year. The following trees were replanted :— *Pinus halepensis* 10,000 plants. *Cupressus pyramidalis* 8,000 " *Acacia cyanophylla* 3,000 " *Acacia pycnantha* 4,000 " 25,000 "
22	Qarn ed-Dibeh Forest Reserve No. 61.	Ramle S/D near Deir Aban village.	1934/35	1,188	1,188	—	Replanted	Natural forest. No new area was planted. 250 Carobs were planted and 5,000 plants replanted.
23	Khirbet Rabi' Forest Reserve No. 58.	Ramle S/D near Deir Aban village.	1923 24	437	437	—	Replanted	Natural forest. No new area was planted. 500 Carobs were planted and 12,000 plants replanted.
24	El-Ghusheina Forest Reserves Nos. 64, 65 and 67.	Ramle S/D near Beit 'Itab village.	1922/23	1,524	1,524	—	Replanted	Natural forest. No new area was planted. 1,000 Carobs were planted and 8,000 plants replanted.
25	Abu Luweiz Forest Reserve No. 79.	Ramle S/D near Sifle village.	1932/33	566	566	—	Replanted	No new area was planted. 250 carobs were planted and 8,000 plants replanted.
26	Batn Mheisan and Dahr Abu Mehaya Forest Reserve No. 83.	Ramle S/D near Beit 'Itab village.	1935 36	221	—	221	—	The plantation consists of two areas (one Reserve) newly planted with *Cupressus* and *Pinus app.* 87,500 plants. Carobs 1,000 " 88,500 "

Serial No.	Name of Plantation	Situation	Year Planting Commenced	Total area in Dunums	Planted up to 1934/35	Newly Planted in 1935/36	Replanted in 1935/36	No. of Trees Planted in 1935/36 by Species
27	Gaza Sand Dunes Forest Reserve No.121.	Gaza S/D south of the main road from Gaza to the sea.	1925/26	1,891	1,883	—	Replanted	No new areas were planted, only 65,000 plants were replanted.
28	Jabalya Sand Dunes Forest Reserve No.122.	Gaza S/D north of the main road from Gaza to the sea.	1926/27	30,000	436	84	87	124,550 plants were planted and replanted.
29	Khan el-Ahmar Experimental Plantation, State Domain.	Jerusalem S/D at km. 20 on the Jerusalem-Jericho road.	1926/27	24	—	—	Replanted	*Acacia cyanophylla* 3,500 plants. *Parkinsonia aculeata* 1,000 " *Prosopis juliflora* 350 " *Retama roetam* 50 " *Eucalyptus hamiphloia* 25 " " *leptoloeba* 65 " " *corynocalyx* 1 " " *albens* 15 " " *leucoxylon* 50 " " *salubris* 4 " " *gomphocephala* 10 " " *tereticornis* 15 " *Acacia cyanophylla* 1,000 " 6,085 "
30	Khan el-Abyad Plot A. Experimental Plantation.	Jerusalem S/D at km. 9 on the Jerusalem-Jericho main road.	1932/33	2	2	—	Replanted	*Acacia cyanophylla* 200 plants. " *saligna* 100 " " *giraffae* 20 " *Prosopis juliflora* 100 " " *glandulosa* 7 " *Retama Roetam* 50 " *Parkinsonia* 150 " 627 "

31	Khan el Abyad Plot B. Experimental Plantation.	Jerusalem S/D at km. 9 on the Jerusalem-Jericho main road.	1932/33	5	5	—	Replanted	*Pinus halepensis*	500 plants.
								Eucalyptus salmonophlia	5 "
								" *leptoloeba*	25 "
								" *albens*	5 "
								" *leucoxylon*	15 "
								" *tereticornis*	15 "
								Ailanthus	300 "
									865 "
32	Beersheba-'Asluj road.	Beersheba S/D, 15 kms. south of Beersheba town adjoining the Beersheba-Asluj road.	1934/35	888	23	—	Replanted	The area of 23 dunams which is protected by a fence was replanted with the following plants:—	
								Celtis australis	50 plants.
								Eucalyptus leptoloeba	10 "
								" *tereticornis*	8 "
								Prosopis juliflora	45 "
								Retama roetam	10 "
								Schinus molle	100 "
								Acacia cyanophylla	3,550 "
								Dalbergia sissoo	100 "
								Tamarix cuttings	1,500 "
									5,373 "
		Grand Total		52,098	14,690	2,115	520		

SCHEDULE OF ROAD-SIDE PLANTING PLOTS, 1935/36.

Plot No.	Name of Plantation	Situation	Area in Dunums	Owner's Name	Protection	Trees Planted
1	Selim Eff. Bishara	Nazareth.	12.000	Selim Eff. Bishara.		100 Carobs and olives planted by Horticultural Section. 500 *Acacia lophantha.* 500 *Pinus halepensis.* 500 *Ailanthus glandulosa.* 400 *Cypress.* 100 *Melia azedarach* (from Nazareth).
2	El-Mujeidal	Nazareth Sub-District West of the Nazareth-Haifa main road.	7.500	Tewfiq Ahmad el Assad of El-Mujeidal village Nazareth Sub-District.	Fenced all around by barbed wire.	Fruit trees planted by Horticultural Section, and ornamental trees planted by the Forests Service. 250 cypresses (from Nazareth).
3	Lubya	Tiberias S/D south of the Tiberias-Nazareth main road near km. 160.	5.000	Hassan Abu Daher of Lubya village, Tiberias S/D.	do.	Fruit trees planted by the Horticultural Section and ornamental trees planted by the Forests Service. 400 Cypresses (from Tiberias).
4	Sinjel	Ramallah S/D east of the Ramallah-Nablus main road.	4.900	Brother of the Mukhtar of Sinjel village. Ramallah S/D.	do.	Fruit trees planted by the Horticultural Section, and 250 Cypresses planted by the Forests Service.
5	El Baq'a	Beersheba S/D south of the Beersheba-Gaza road.	4.900	Sheik Muhammad el-Tallac.	do.	Fruit trees planted by the Horticultural Section. 100 Acacia cyanophylla. 150 Tamarix cuttings planted by Forests Service.

6	Abu Zweiqa	Beersheba S/D west of the Beersheba Jammama road.	4.788	Haj Muhammad es-Sabah.	do.	Fruit trees planted by the Horticultural Section. 100 *Acacia cyanophylla.* 150 Tamarix cuttings, planted by the Forests Service.
7	Um Sira	Beersheba S/D north of the Beersheba-al-'Imara road.	4.900	Sheikh Hamdi Salameh.	do.	Fruit trees planted by the Horticultural Section. 150 Tamarix -cuttings. 25 *Celtis.- australis.* 50 *Parkinsonia.* 125 *Acacia cyanophylla,* planted by the Forests Service.
8	Malha	Beersheba S/D north of the Beersheba-Ras Zuweira road.	5.000	Suleiman abu Rabiah.	do.	Fruit trees planted by the Horticultural Section. 150 Tamarix cuttings. 25 *Celtis australis.* 50 *Parkinsonia.* 125 *Acacia cyanophylla,* planted by the Forests Service.
9	Es Satar	Gaza S/D. Khan Yunis village.	5.625		do.	Fruit trees mainly planted by the Horticultural Section.

APPENDIX 10.

STOCK AT GOVERNMENT FOREST NURSERIES AS AT 1st OCTOBER, 1935.

Name of Nursery	Description	Situation	Total Number of Plants
Tiberias	Permanent	Tiberias Town	135,620
Nazareth	Permanent	Nazareth Town	192,630
Acre Stock Farm	Permanent	Acre Stock Farm and Agricultural Experimental Station	213,358
Jerusalem	Temporary	Jerusalem City	44,864
Bassat Qaqun	Temporary	Qaqun Forest Reserve, Tulkarem Sub-District	10,750
Gaza	Sand Dunes	Gaza Sand Dunes Forest Reserve	157,914
Jabalya	Sand Dunes	Jabalya Forest Reserve	60,889
Acre	Sand Dunes	Acre Sand Dunes Forest Reserve	5,577
Bab el-Wad	Hill	Bab el-Wad, Jerusalem Sub-District	106,075
Wad el-Quff	Hill	Wad el-Quff, Hebron Sub-District	107,560
Um Safa	Hill	Um Safa Forest Reserve, Ramallah Sub-District	380
Khirbet Rabi'	Hill	Khirbet Rabi' Forest Reserve, Ramle Sub-District	138,623
Nablus	For propagation of Mulberries	Nablus Town	1,550
Maddad	Temporary	Maddad, Tiberias Sub-District	50,000
		Total	1,225,790

APPENDIX 11.

PRIVATE FOREST PLANTATIONS FORMED DURING 1935/36.

Sub-District	Number of Plantations	Area in Dunums
Jerusalem	2	170
Jaffa	6	34
Gaza	3	22
Haifa	19	690
Acre	35	111
Nazareth	16	875
Safad	4	79
Nablus	—	—
Jenin	12	54
Zikhron Ya'aqov	11	268
Tulkarm	16	460
Tiberias	2	290
Total	126	3,073

APPENDIX 12.

SCHEDULE OF PRIVATE FOREST PLANTATIONS AS AT 31st MARCH, 1936.

Sub-District	Number of Plantations	Area in Dunums
Jerusalem	16	719
Jaffa	311	10,484
Gaza	44	703
Haifa	77	3,647
Acre	77	364
Nazareth	136	6,189
Safad	93	1,079
Nablus	4	16
Jenin	22	291
Zikhron Ya'aqov	133	7,235
Tulkarm	65	1,913
Tiberias	40	1,535
Beisan	41	1,075
Total	1,059	35,241

PLANTS ISSUED AND SOLD FROM GOVERNMENT FOREST NURSERIES — 1935/36.

NURSERY	GRATIS ISSUES								Issues to Departmental Palntations	Sales from Government Nurseries	GRAND TOTAL
	Govt. Owned lands properties, gardens, etc. (Excluding Departmental Plantations)	Government and non-Government Schools	Villages and settlements for road and avenue planting	Municipalities for road and avenue planting	Individual land owners, for roadside planting	Orphanages and Institutions	Permanent Military Cantonments and Police Stations	Total			
Tiberias	2,383	525	31,885	1,000	—	—	150	35,943	137,601	—	173,544
Nazareth	1,854	64	13,100	—	5,019	603	4,635	25,275	168,233	—	193,508
Acre	5,278	18,546	20,894	90	41,188	—	50	86,046	93,286	23,639	202,871
Jerusalem	2,919	406	560	513	2,513	1,866	500	9,277	11,009	78	20,364
Qaqun	715	—	9,530	500	—	—	—	10,745	—	—	10,745
Gaza and Jabalya	8,523	3,727	1,950	690	1,180	—	1,070	17,140	172,550	—	189,690
Bab el-Wad	1,885	10,073	6,410	150	5,420	300	400	24,638	72,748	—	97,386
Wad el-Quff	2,550	—	1,745	—	500	—	—	4,795	88,356	—	93,151
Khirbet Rabi'	—	1,846	3,780	1,700	2,670	—	—	9,996	110,950	—	120,946
Maddad	—	—	—	—	—	—	—	—	50,000	—	50,000
TOTAL	26,107	35,187	89,854	4,643	58,490	2,769	6,805	223,855	904,733	23,617	1,152,205

STATEMENT OF TOTAL FOREST PRODUCTION, 1935-36.

Extracted from Forest Reserves by Rightholders for Domestic Use	25,036	11,010	134	65
Extracted from Forest Reserves for Trade Purposes	6,456	1,448	622	1,105
Total	31,491	12,458	756	1,270
Extracted from Private Forest Lands for Trade Purposes	11,282	20,196	10,911	84,362
Grand Total	42,773	32,654	11,667	85,632

ESTIMATED VALUE OF FOREST PRODUCE EXTRACTED FROM FOREST RESERVES, 1935-36.

	Timber		Firewood		Charcoal		Lime		Grand Total of Value LP. Mils
	Pieces	Value LP. Mils	Kantars	Value LP. Mils	Kantars	Value LP. Mils	Kantars	Value LP. Mils	
Extracted by Rightholders:—	25,036	500.720	11,010	3,303,000	134	214,400	65	19,500	4,037,620
Extracted by Traders	6,455	129,100	1,448	434,400	622	995,200	1,105	331,500	1,890,200
Total	31,491	629,820	12,458	3,737,400	756	1,209,600	1,170	351,000	5,927,820

NOTE: Timber estimated value at 20 mils per piece.
Firewood estimated value at 300 mils per Kantar (300 Kilogrammes).
Charcoal estimated value at LP. 1.600 mils per Kantar (300 Kilogrammes).
Lime estimated value at 300 mils per Kantar (300 Kilogrammes).

ANIMALS LICENSED TO GRAZE IN FOREST RESERVES, 1935/36.

Forest Range	RIGHTHOLDERS' ANIMALS					STRANGERS' ANIMALS		GRAND TOTAL
	Goats	Sheep	Cows	Camels	Total	Goats	Sheep	
Jerusalem	1,129	102	209	296	1,736	—	—	1,736
Hebron	8,174	1,473	—	—	9,647	—	—	9,647
Ramallah	780	—	—	—	780	—	—	780
Haifa and Zikhron Ya'aqov	28,955	888	187	10	30,040	—	—	30,040
Acre	2,455	—	273	3	2,731	—	—	2,731
Nazareth	1,604	1,113	—	—	2,717	—	—	2,717
Safad	1,741	—	—	—	1,741	—	—	1,741
Tiberias	3,360	235	96	—	3,691	—	—	3,691
Nablus	1,107	—	—	—	1,107	504	500	2,111
Tulkarm	130	—	—	—	130	75	—	205
Jenin	12,704	1,352	345	—	14,401	—	—	14,401
Total	62,139	5,163	1,110	309	68,721	579	500	69,800

FOREST LICENCES ISSUED DURING 1935/36.

Forest Range	FOREST RESEPVES								PRIVATE FOREST LAND					Felling of Protected Trees	Removal of Produce	TOTAL
	Rightholders' Licences		Trade Licences						Trade Licences							
	Timber Firewood Charcoal, Lime, etc.	Grazing	Timber	Firewood	Charcoal	Lime	Olive Suckers and Saplings	Grazing	Timber	Firewood	Charcoal	Lime	Olive Suckers and Saplings			
Jerusalem	1	34	12	8	—	—	—	—	—	49	6	77	—	80	4	271
Hebron	77	135	—	—	—	—	—	—	—	111	37	127	—	1,139	132	1,758
Ramallah	—	12	—	—	—	—	—	—	—	23	14	19	—	587	—	655
Jaffa	—	—	—	—	—	—	—	—	5	82	1	—	—	23	73	184
Ramle	106	—	—	—	—	—	—	—	1	140	—	65	—	146	239	697
Gaza & Beersheba	—	—	—	—	—	—	—	—	—	57	85	—	—	53	99	294
Haifa & Zikhron Ya'aqov	204	336	56	21	7	3	10	—	98	376	500	190	—	1,165	660	3,626
Acre	405	30	20	—	210	3	5	—	18	36	1,267	134	5	1,930	617	4,680
Nazareth	239	109	33	28	—	13	—	—	3	152	33	100	—	287	134	1,131
Safad	742	12	6	189	11	8	—	—	—	2	76	35	2	295	—	1,378
Tiberias	16	63	—	—	—	—	—	—	5	27	41	24	—	109	10	295
Nablus	304	23	3	3	—	—	1	6	—	59	36	110	—	46	100	691
Tulkarm	—	1	—	—	—	—	—	1	—	26	3	77	—	16	12	136
Jenin	916	191	—	29	3	—	4	—	—	32	579	188	—	138	643	2,723
Beisan	11	—	—	20	—	—	—	—	—	32	109	—	—	16	198	386
TOTAL	3,021	946	130	298	231	27	20	7	130	1,204	2,787	1,146	7	6,030	2,921	18,905

FOREST REVENUE BY CATEGORIES OF PRODUCE 1935/36.

MONTH	FOREST RESERVES									PRIVATE FOREST LAND							Sale of Nursery and Forest	Sale of Confiscated Forest Produce	Compensation for Forest Offences	GRAND TOTAL
	Trade Licences						Dept. Sale of Forest Produce	Rightholders' Licences		Trade Licences										
	Timber	Fire-wood	Char-coal	Lime	Olive Suckers & Sap-lings	Grazing		Timber, Firewood Charcoal Lime, etc.	Grazing	Timber	Fire-wood	Char-coal	Lime	Other Produce	Olive Suckers & Sap-lings	Felling of Pro-tected Trees				
	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils
April, 1935	2.250	3.485	18.690	2.850	—	—	—	12.950	4.950	6.050	37.080	170.945	113.400	—	—	2.100	—	8.600	—	383.650
May, "	3.000	4.750	27.750	2.550	—	—	—	5.700	10.350	1.700	53.940	102.500	68.500	—	—	3.260	0.150	2.800	0.200	287.150
June, "	0.200	6.925	19.250	1.800	—	—	—	2.350	2.900	1.450	79.360	52.225	51.450	—	—	3.360	—	17.590	0.200	239.060
July, "	2.700	7.235	22.875	—	—	—	6.600	31.600	0.450	1.825	113.685	155.540	100.460	—	—	11.620	—	3.175	2.000	459.765
August, "	1.000	8.300	4.125	13.350	—	—	—	10.500	0.950	2.080	112.900	204.685	150.390	—	—	2.740	—	12.065	0.500	523.585
September, "	4.560	9.400	2.375	2.400	—	—	—	9.100	0.350	12.800	82.320	237.725	153.430	—	—	10.900	—	3.250	—	528.610
October, "	15.850	9.950	1.500	—	—	—	—	55.850	0.400	8.350	163.030	389.065	212.950	—	—	10.560	—	3.300	—	870.805
November, "	7.400	5.330	7.375	—	0.300	—	—	13.600	2.200	6.720	66.790	250.835	51.730	—	—	3.530	—	6.820	—	422.630
December, "	5.450	5.100	13.875	—	1.350	2.600	—	0.250	—	7.895	73.885	180.450	44.400	—	0.045	2.910	—	8.090	—	346.300
January, 1936	5.150	5.400	10.375	7.500	2.860	1.750	—	5.850	8.600	2.814	46.095	140.960	41.700	—	0.475	3.230	19.055	3.075	—	304.889
February, "	5.000	3.400	23.875	0.900	0.650	1.900	—	2.050	6.150	4.650	59.555	183.360	46.560	—	0.025	4.020	34.805	1.730	—	378.630
March, "	5.210	1.900	4.125	1.800	0.200	1.840	1.000	1.400	10.000	0.300	91.530	139.390	54.940	—	0.240	2.030	15.620	3.440	—	334.965
Total	58.070	71.175	156.190	33.150	5.360	8.090	7.600	151.200	47.300	56.634	980.170	2,207.680	1,089.910	—	0.785	60.260	69.630	73.935	2.900	5,080.039

SUMMARY

Year	Forest Reserves				Private Forest Land	Sale of Nursery Produce	Sale of Confiscated Produce	Compensation for Forest Offences	Grand Total
	Trade Licences	Dept. Sale of Forest Produce	Right-holders Licences	Total	Trade Licences				
	LP Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils	LP. Mils
1935/36	332.035	7.600	198.500	538.135	4,395.439	69.630	73.935	2.900	5,080.039

APPENDIX 18.

OLIVE PROPAGATION, 1935/36.

Sub-District	Olive Suckers Extracted from Forest Reserves under Licences	Olive Suckers Extracted from Private Groves	TOTAL
Safad	100	—	100
Tulkarm	—	25,633	25,633
Acre	500	225	725
Ramleh	—	2,172	2,172
Tiberias	—	1,900	1,900
Beisan	—	180	180
Zikhron-Ya'aqov	—	380	380
Haifa	4,410	390	4,800
Jenin	1,100	20,043	21,143
Nablus	100	34,182	34,282
Nazareth	2,020	3,250	5,270
Jerusalem	—	3,937	3,937
Ramallah	—	12,580	12,580
Hebron	—	75	75
Total	8,230	104,947	113,177

Note: (a) In addition to the above the following wild olive suckers were extracted departmentally from Forest Reserves and issued to the undermentioned Government Horticultural Stations for subsequent budding :—

Government Horticultural Station	Number.
Nablus	2,500
Majdal	2,500
'Ein 'Arrub	5,100
Acre	14,940
Total :	25,040

(b) 3,500 wild olive suckers and saplings were extracted departmentally from Forest Reserves at Government expense and issued gratis to the public.

Appendix 19.

BALANCE OF TRADE IN FOREST PRODUCTS, 1935/36.

Kind of Products	Exports	Imports	Excess of Exports over Imports	Excess of Imports over Exports	Net Excess of Imports over Exports
	LP.	LP.	LP.	LP.	LP.
Charcoal and firewood	29	1,976	—	1,947	
Bamboo Stakes	—	725	—	725	
Wood for building	—	436,008	—	436,008	
Wood for furniture	—	23,478	—	23,478	
Wood prepared for citrus fruit cases	—	320,978	—	320,978	
Ply wood	—	84,082	—	84,082	
Wooden hoops for cases	—	16,570	—	16,570	
Wooden staves for barrels	—	85	—	85	
Trunks and branches of trees	—	20,517	—	20,517	
Empty barrels and cases	70	399	—	329	
Furniture	1,254	70,198	—	68,944	
Wooden nails	—	335	—	335	
Olive wood manufactures	2,983	—	2,983	—	
Other wood manufactures	613	56,755	—	56,142	
Carts and carriages	543	855	—	312	
Matches	—	677	—	677	
Cork wood	—	233	—	233	
Plants. shrubs and trees	955	9,651	—	8,696	
Paper for packing citrus fruits	—	39,761	—	39,761	
Paper other sorts	—	116,941	—	116,941	
Cardboard	—	26,396	—	26,396	
Empty boxes of paper and carton	15	1,282	—	1,267	
Paper and cardboard, all other manufactures	5,001	76,920	—	71,919	
Tanning substances	76	7,702	—	7,626	
Tar and pitch	—	1,226	—	1,226	
Basketware	—	4,599	—	4,599	
Gums and resins	—	6,308	—	6,308	
Essences and essential oils	5,209	9,991	—	4,782	
Total	16,848	1,343,648			1,326,800
Total 1934	16,779	1,327,579			1,310,800
,, 1933	15,185	732,199			717,014
,, 1932	9,968	598,753			588,785
,, 1931	9,655	426,213			416,558
,, 1930	8,989	479,951			470,962
,, 1929	11,200	469,936			458,736
,, 1928	8,135	436,419			428,284
,, 1927	5,816	253,322			247,506
,, 1926	5,091	405,920			400,829
,, 1925	9,075	441,292			432,217
,, 1924	9,420	271,779			262,359
,, 1923	7,785	248,036			240,251
,, 1922	5,825	148,250			142,425

FOREST OFFENCES, 1935/36.

Month	Cases Taken to Court				Cases Compounded		Total No. of Cases
	No. of Persons Prosecuted	No. of Persons Convicted	No. of Persons Acquitted	Amount of Fines Imposed by Court LP. Mils	No. of Cases	Amount of Compensation LP. Mils	
April, 1935	107	90	17	85.400	—	—	107
May, "	180	142	38	132.850	—	—	180
June, "	74	40	34	27.800	2	0.400	76
July, "	87	82	5	88.750	—	—	87
August, "	107	84	23	46.700	1	0.500	108
September, "	66	57	9	35.850	—	—	66
October, "	132	108	24	69.050	—	—	132
November, "	111	92	19	74.110	—	—	111
December, "	63	56	7	62.750	—	—	63
January, 1936	204	149	55	101.100	—	—	204
February, "	122	86	36	73.950	1	0.200	123
March, "	151	125	26	67.700	2	2.000	153
Total	1,404	1,111	293	866.010	6	3.100	1,410

SUMMARY — ANALYSIS OF CASES

1.	Damage to Forest by Fire	2
2.	Unauthorised Possession of Forest Produce	216
3.	Unauthorised Felling	549
4.	Unauthorised Grazing	120
5.	Unauthorised Removal of Forest Produce	109
6.	Land Encroachments	306
7.	Miscellaneous	108
	Total	1,410

Sub-Head	Estimates	Actual Expenditure	Balance		Cost of Living Allowance	Total Expenditure	Remarks
			Over Expenditure	Under Expenditure			
	LP.	LP.	LP.	LP.	LP.	LP.	
I. PERSONAL EMOLUMENTS							
Senior Technical Service	1,773	1,794	21	—	144	1,938	The excess expenditure shown in column 4 over the relevant provision in column 2 is due to the transfer of the provision for cost of living allowances from one item under Head "Miscellaneous" of the Palestine Estimates, to the various departmental votes of Personal Emoluments.
Forest Surveyors	496	451	—	45	51	502	
Forest Rangers	2,433	2,077	—	272	167	2,328	
		84					
		2,161					
Clerical Officers	854	669	—	185	59	728	
Nursery Superintendents	192	192	—	—	24	216	
Head Gardener Government House, Grounds	204	204	—		18	222	
Silvicultural Assistant	156	150	—	6	12	162	
Forest Guards	3,240	2,601	—	639	—	2,601	
Forest Gardeners (including 3 gardeners at Government House Grounds)	1,136	854	—	282	—	854	
Messengers, Cleaners and Caretaker	102	102	—	—	—	102	
TOTAL	10,586	9,178	21	1,429	475	9,653	
II. OTHER CHARGES							
Afforestation	4,000	3,985		15			
Upkeep of Nurseries	2,300	2,267		33			
Rent of Nurseries	10	8		2			
Demarcation of Forests	180	179		1			
Silvicultural Research	100	65		35			
Transport and Travelling	3,172	3,001		171			
Forage	50	41		9			
Upkeep of Government House Grounds	600	592		8			
Departmental Extraction of Forest Produce	100	95		5			
Contingencies	20	18		2			
Uniforms	250	206		44			
Lighting and Heating	8	8		—			
Grafting of Wild Carob Trees in Forest Reserves	600	525		75			
Distribution of Olive Suckers	100	100		—			
Road-Side Tree Planting	300	295		5			
TOTAL	11,790	11,385		405			

APPENDIX No. 22.

LIST OF PLANTS RECEIVED IN EXCHANGE 1935/36.

Species	Country of Origin.
Rhus typhinal, L.	France
Symphoricarpos occidentalis, Hook.	"
Cephalanthus occidentalis, L.	"
Crataegus oxyacantha spp. monogyna.	"
Nepeta cataria, L.	"
Rhamnus cathartica, L.	"
Rhus glabra, L.	"
Pinus nigra var. caramanica.	Cyprus
Aleurites montana.	U.S.S.R.
Eucalyptus tereticornis.	Hong-Kong
Parrotia persica.	"
Gymnocladus canadensis.	England
Fagus spp.	"
Taxodium mucronatum.	U.S.S.R.
Cotoneaster rotundifolia.	"
Ceanothus hybridus.	"
Lonicera similis.	"
Callistemon scaber.	"
Elaeagnus pungens.	"
Acer saccharum.	U.S.A.
Cassia nairobensis.	Syria
Cupressus arizonica.	Syria
Agathaea celestis.	Germany
Aloe striata.	"
Caladium humboldtii.	"
Caladium hybridum.	"
Clerodendron fallax.	"
Nymphaea lotus v. dentata.	"
Ruellia solitaria.	"
Ruellia subsessilis.	"
Veronica gentianoides.	U.S.S.R.
Salvia farinacea.	Germany
Strobilanthes rosea.	"
Victoria cruciana.	"
Wax-berry (Myrica cordifolia).	U.S.Africa
Amygdalus nana.	U.S.S.R.
Genista tinctoria.	"
Berberis vulgaris.	"
Daphne mezereum.	"
Jasminum fruticans.	"
Viburnum opulus.	"
Berberis thunbergii.	"
Cerastium biebersteinii.	"
Clematis jackmanii.	"
Clematis montana.	"
Clematis paniculata.	"
Cotoneaster adpressa.	"
Cotoneaster buxifolia.	"
Cotoneaster divaricata.	"
Cotoneaster microphylla.	"
Cotoneaster racemiflora.	"

APPENDIX No. 22 (Cont.)

Species	Country of Origin
Cotoneaster rotundifolia.	U.S.S.R.
Delphinium orientale.	"
Humulus lupulus.	"
Juniperus oxycedrus.	"
Linaria dalmatica.	"
Lonicera tatarica.	"
Poeonia tenuifolia.	"
Paeonia trinervata.	"
Philadelphus latifolius.	"
Photinia serrulata.	"
Veronica speciosa.	"

APPENDIX No 23

LIST OF SEEDS ISSUED FROM EXCHANGE BUREAU 1935/36.

Local Correspondent	No. of Species	Foreign Correspondents	No. of Species
Government House, Jerusalem.	5	Director of Agriculture, Mauritius.	1
Government School, Tayibeh, Tulkarm Sub-District.	3	Agricultural Experimental Station, Honolulu ,Hawaii	10
Kadoorie Agricultural School, Tulkarm.	4	Superintendent of Parks & Town Attractions, Port Elizabeth, South Africa.	20
Hebrew University, Jerusalem.	12	Introduction Garden, Sukhum U.S.S.R.	5
Chief Horticultural Officer Jerusalem.	16	Botanical Garden, Köln, Germany.	18
Mizrahi Girls Household School, Jerusalem.	8	Horticultural Station, Gîza, Egypt.	13
Mr. Sigmund Siorness, Jerusalem.	15	Palmengarten, Frankfurt A.M., Germany.	7
Agricultural School Mikveh Israel.	14	Imperial Bureau of Plant Genetics, England.	3
Mr. Gray Donald, Jerusalem.	3	Forest Service, Buenos Aires, Argentina.	26
Girls Agricultural Farm, Jerusalem.	6	Botanical Garden, Nikita, U.S.S.R.	22

APPENDIX No. 24

LIST OF PLANT MATERIAL COLLECTED AND PURCHASED LOCALLY 1935/36.

Species	Quantity Grams	Species	Quantity Grams
Poinciana regia	5,000	*Cupressus lawsoniana*	240
Jacaranda mimosaefolia	900	*Liriodendron tulipifera*	125
Acer pseudoplatanus	100	*Koelreuteria paniculata*	125
Cassia corymbosa	20	*Pinus insignis*	2,000
Cassia fistula	100	*Robinia pseudacacia*	20,000
Cerasus lauro-cerasus	100	*Robinia viscosa*	500
Cornus florida	100	*Acacia melanoxylon*	250
Elaeagnus angustifolia	100	*Eucalyptus corynocalyx*	·20
Eucalyptus marginata	20	*Bignonia capensis*	(seeds) 100
Eucalyptus regnans	50	*Cupressus arizonica*	1,240
Eucalyptus tereticornis	20	*Cedrus libani*	300
Grevillea robusta	1,000	*Cedrus deodara*	1,200
Liquidambar styraciflua	10	*Cedrus atlantica*	1,150
Melia azedarach floribunda	100	*Libocedrus decurrens*	150
Melia japonica	100	*Eucalyptus melliodora*	15
Metrosideros tomentosa	10	*Eucalyptus robusta*	15
Phytolacca dioica	100	*Eucalyptus radiata var. amygdalina*	15
Pirus baccata mixtae vor	10	*Eucalyptus albens*	15
Tectona grandis	(seeds) 100	*Melaleuca leucadendron*	15
Eucalyptus calophylla	8	*Acacia baileyana*	30
Eucalyptus diversicolor	15	*Acacia elata*	30
Eucalyptus ficifolia	8	*Callitris oalcarata*	30
Eucalyptus gomphocephala	15	*Callitris cupressiformis*	30
Eucalyptus salmonophbia	8	*Callitris glauca*	30
Eucalyptus salubris	15	*Callitris muelleri*	30
Juglans regia	25,000	*Acer negundo*	250
Pinus canariensis	450	*Catalpa bignonioides*	100
Cupressus macrocarpa	1,450	*Paulownia imperialis*	100
Acacia dealbata	250	*Pinus halepensis*	24,000

APPENDIX No. 25.

LIST OF PLANT MATERIAL COLLECTED IN PALESTINE 1935/36.

Species	Quantity Grams	Species	Quantity Grams
Salvia horminum	115	*Melia azedarach*	10,700
Scabiso prolifera	175	*Cupressus pyramidalis*	4,700
Melilotus sulcata	60	*Pistacia lentiscus*	1,950
Chrysanthemum coronarium	220	*Styrax officinalis*	6,000
Trifolium stellatum	30	*Rhus coriaria*	600
" *scutatum*	80	*Phillyrea media*	1,250
" *campestre*	50	*Pinus halepensis*	4,500
" *clypeatum*	30	*Cercis siliquastrum*	2,725
" *lappaceum*	80	*Pistacia mutica*	530
" *resupinatum*	40	*Laurus nobilis*	3,400
Medicago orbicularis	110	*Robinia bessoniana*	60
" *hispida*	75	*Olea europaea*	1,850
Trifolium tomentosum	20	*Acacia decurrens*	6,900
" *purpureum*	80	*Zizyphus lotus*	3,500
Melilotus indicus	10	*Cassia spp.*	350
Acacia seyal	500	*Tecoma stans*	100
Calotropis procera	400	*Eucalyptus gomphocephala*	70
Poterium spinosum	630	" *robusta*	30
Origanum maru	950	" *corynocalyx*	30
Ricinus communis	250	*Nicotiana glauca*	150
Retama roetam	450	*Leptospermum laevigatum*	100
Eucalyptus botryoides	30	*Dalbergia sissoo*	2,000
Eucalyptus leucoxylon	50	*Lupinus pilosus*	900
Acacia saligna	300	*Bauhinia purpurea*	4,050
Acacia cyanophylla	43,000	*Cordia myxa*	850
Artemisia monosperma	400	*Statice sinuata*	750
Acacia longifolia	300	*Elaeagnus angustifolia*	2,500
Rosa canina	50	*Cupressus horizontalis*	7,500
Acacia lophantha	300	*Zizyphus vulgaris*	100
Poinciana regia	1,500	*Casuarina equisetifolia*	900
Washingtonia filifera	900	*Cupressus sempervirens*	1,200
Zizyphus spina-christi	750	*Eucalyptus rostrata*	3,560
Acacia farnesiana	350	*Balanites aegiptiaca*	9,650
Parkinsonia aculeata	4,775	*Myoporum laetum*	800
Sambucus nigra	75	*Robinia pseudacacia*	6,000
Schinus molle	9,050	*Crataegus azarolus*	500
Grevillea robusta	25	*Thymus capitatus*	150
Brachychiton sp.	1,400	*Pistacia palaestina*	1,200
Myrtus communis	300	*Ceratonia siliqua*	41,500
Arbutus andrachne	1,000	*Quercus aegylops*	2,500

REPORT
OF THE
VETERINARY SERVICE
FOR THE YEAR
ENDED MARCH, 1936.

CONTENTS.

I. Introduction.

II. Staff.

III. Finance — Expenditure and Receipts.

IV. Animal Diseases.

V. Quarantine.

VI. Slaughter Houses and Meat Inspection.

VII. Veterinary Service to the Palestine Police Force and British Troops in Palestine.

VIII. Animal Husbandry.

IX. General.

Annexures :—

(a) Report of the Veterinary Pathologist, Government Veterinary Laboratory.

(b) Report of the Manager, Stock Farm, Acre.

(c) Report of the Senior Poultry and Beekeeping Officer.

(d) Sheep Breeding Experiments at the Government Stock Farm and Agricultural Station of Palestine.

(e) Appendices.

REPORT OF THE CHIEF VETERINARY OFFICER FOR THE YEAR ENDED MARCH, 1936.

I. INTRODUCTION.

This report covers the financial year commencing the 1st April, 1935, and ending the 31st March, 1936.

2. The year under review has been a good one for village livestock. There was plenty of stubble grazing during the summer months and no shortage of tibn and grain with which to feed livestock up to the fall of the rains. These were earlier than usual and thus some natural green grazing was to be found early in November. With the exception of Beersheba District and the eastern region bounded by the Jordan, sufficient rain fell throughout the winter and spring months to produce good natural grazing and to maintain pastures for a longer period than usual. The general condition of livestock improved considerably where such green feed was available and the lambing and kidding seasons were consequently good and young stock during early life thrived well.

3. The report of Mr. F. A. Stockdale, C.M.G., C.B.E., Agricultural Adviser to the Secretary of State for the Colonies, on his visit to Palestine and Trans-Jordan in March-April, 1935, was received towards the end of 1935. A summary of the recommendations contained in the report and connected with the work of the Veterinary Branch is given below. These recommendations are now under consideration and will be given effect as soon as circumstances, financial and otherwise, permit.

Dairy Industry.

(a) Under Palestine conditions a certain percentage of native cattle blood is a basic requirement in dairy herds. Steps should therefore be taken in Palestine itself to build up herds of selected and tested breeding stock of the Damascus breed and of the local Baladi breed.

(b) Organized dairying amongst the Arabs should be encouraged and the establishment of a co-operative marketing association for the distribution of dairy products considered.

(c) There is one aspect of the Palestine dairy industry which is disappointing. Great improvement in the sanitary condition of the cow-sheds and their surroundings is possible.

(d) The cost of production of dairy products in Palestine is high and a larger proportion of locally-grown feeding stuffs should be introduced into the feeding rations.

Poultry Industry.

(a) A high degree of efficiency in the industry has been attained, but costs of production are high. A part of this cost is due to a rather high mortality. Certain suggestions are made for consideration.

(b) There is still a very considerable import of eggs and poultry into Palestine, and a definite opportunity exists for the development of poultry keeping amongst Arab farmers. A definite effort has been made during the past few years to develop this industry amongst the Arabs, but it is recommended that the position should be generally reviewed in two to three years' time and that concentrated efforts should be made in certain selected districts and the establishment of co-operative marketing organizations begun.

Beekeeping.

The real needs of the immediate future appear to be the standardization of products and arranging for their organized marketing.

Animal Husbandry.

(a) Little permanent improvement is to be expected until greater attention is paid to the feeding of livestock. The attempts being made to improve the natural pasturage and to raise fodder crops should be continued and flock-owners should be encouraged to feed concentrates. The use of cactus as a feed for live stock should be fostered and trials of woolly finger grass and of certain leguminous fodders in the hilly areas are suggested.

(b) The various schemes for livestock improvement have approval, but such improvements are unlikely to be permanent unless better supplies of food are available. A review of the results being obtained is recommended and concentration of efforts on those areas where there is a definite promise of a permanent effort by the farmers in the production of fodder for live stock.

(c) The introduction of Spanish stud donkeys is suggested.

(d) The improvement in the technique of silage production should be possible.

(e) An increase in the number of sheep-dipping tanks appears to be warranted.

4. The report of the Veterinary Pathologist on the work conducted at the Government Veterinary Laboratory during the year is appended as Annexure 'A'.

4a. The activities and development of the Stock Farm at Acre are reported on by the Manager in Annexure 'B' and the report of the Senior Poultry and Beekeeping Officer on the activities of the Poultry and Bee Section is attached as Annexure 'C'.

II. STAFF.

5. The following new junior appointments were made in different sections of the Veterinary Branch so as to be able to meet the increase in work and to give effect to new schemes.

HEADQUARTERS.

1 Poultry Recorder	— Jerusalem

DISTRICT STAFF.

1 Assistant Veterinary Officer	— Beersheba Sub-District (temporarily stationed at Jaffa).

1 Poultry Disease Specialist	— Affula — for Northern District.
1 Poultry Disease Specialist	— Jaffa — for Southern & Jerusalem Districts.
7 Stock Inspectors	— Various Sub-Districts.
1 Poultry & Bee Instructor	— Safad — for Safad, Tiberias, Nazareth, Acre and Haifa Sub-Districts.
1 Poultry and Bee Instructor	— Nablus — for Nablus, Tulkarm, Jenin and Beisan Sub-Districts.

ANIMAL QUARANTINE STATIONS.

1 Asst. Quarantine Veterinary Officer	— Haifa Quarantine Station.
6 Poultry Quarantine Supts. & Guards	— Haifa, Jaffa & Jerusalem.

STOCK FARM.

1 Cattle Attendant	— Stock Farm, Acre.
1 Irrigation Labourer	— do
1 Ghaffir	— do
1 Motor Lorry Driver	— do
1 Electrician	— do
3 Stablemen, Cowmen and Shepherds	— do

POULTRY STATIONS AND APIARIES.

3 Poultry and Bee Men	— Sarafand, Jenin and Acre Poultry Stations and Apiaries.

6. The two new posts of Poultry Disease Specialists were filled by the appointment of Mr. Y. S. Grasovsky, M.R.C.V.S., previously holding a post of Assistant Veterinary Officer, and Mr. A. Komarov, D.V.M., M.Sc., previously on the staff of the Hebrew University.

7. The post of Assistant Quarantine Veterinary Officer was filled by the appointment of Mr. A. Bergthal, graduate of the Veterinary High School, Vienna, previously holding the post of Assistant Veterinary Officer.

8. Three vacancies on the establishment created by the transfer of two Assistant Veterinary Officers to other posts as mentioned above and the provision of a new post were filled by the employment of Mr. N. Firun, M.R.C.V.S., Mr. S. Gluckstein, graduate of the Veterinary High School, Alfort, France, and Bayoumi Eff. B. Nasari, graduate of the Veterinary High School, Cairo, Egypt.

9. The Chief Veterinary Officer was absent on vacation leave from the 9th July to the 22nd November, 1935, during which period the Veterinary Pathologist acted as Chief Veterinary Officer. Other officers were granted varying short periods of local leave.

10. The staff of the Veterinary Branch consisted at the close of the year under review of the following officers :—

HEADQUARTERS.

Chief Veterinary Officer	— 1
Senior Poultry and Beekeeping Officer	— 1
Head Clerk	— 1
Clerks	— 7
Poultry Recorder	— 1
Storekeeper	— 1

DISTRICT STAFF.

Veterinary Officers	— 6
Asst. Veterinary Officers	— 7
Poultry Disease Specialists	— 2
Poultry & Bee Instructors	— 4
Stock Inspectors	— 19
Stablemen	— 6
Clerks	— 4

ANIMAL QUARANTINE STATIONS.

Asst. Quarantine Veterinary Officer	— 1
Quarantine Superintendents	— 12
Quarantine Guards	— 23
Poultry Quarantine Supts. & Guards	— 6

VETERINARY LABORATORY.

Veterinary Pathologist	— 1
Asst. Veterinary Pathologist	— 1
Laboratory Assistants	— 4
Laboratory Attendants	— 2
Cleaners and Packers	— 2
Stablemen	— 2
Clerk	— 1

STOCK FARM.

Manager	— 1
Superintendent, Animal Section	— 1
Stockman	— 1
Stablemen, Cowmen and Shepherds	— 18
Cattle Attendant	— 1
Irrigation Labourer	— 1
Motor Lorry Driver	— 1
Electrician	— 1
Ghaffir (Watchman)	— 1
Storekeeper	— 1
Clerks	— 3

POULTRY STATIONS AND APIARIES.

Superintendent, Poultry Station, Acre	— 1
Poultry and Bee Attendants	— 5
Apiarists	— 2
Poultry and Bee Men	— 12
Ghaffirs (Watchmen)	— 2

III. FINANCE — EXPENDITURE & RECEIPTS.

11. Expenditure during the financial year 1935/36 amounted to LP.41,653, as compared with LP.32,700 during 1934/35 ; details are set out below : —

Section		Personal Emoluments LP.	Other Charges LP.	Special Expenditure LP.	Total LP.
Administration	34/35	2,063	409	—	2,472
	35/36	2,283	667	28	2,978
Veterinary Field Section	34/35	6,373	3,063	91	9,527
	35/36	7,350	3,113	803	11,266
Veterinary Laboratory	34/35	2,946	930	150	4,026
	35/36	3,033	1,089	492	4,614
Animal Quarantine Section	34/35	3,073	499	150	3,722
	35/36	3,761	1,285	174	5,220
Stock Farm Section	34/35	2,505	1,803	1,777	6,085
	35/36	3,005	4,336	655	7,996
Poultry and Bee Section	34/35	2,391	2,988	1,489	6,868
	35/36	3,553	4,468	1,558	9,579
Total	34/35	19,351	9,692	3,657	32,700
	35/36	22,985	14,958	3,710	41,653

12. The principal increases are due to normal increments ; the appointment of new personnel in the various sections of the Branch, and particularly in the Stock Farm and Poultry and Bee sections, and the provision of funds for the extension of Poultry Stations and Apiaries, for grants to Societies for the Prevention of Cruelty to Animals and the establishment of Rural Animal Dispensaries, for the grant of premiums to poultry farmers, and for other services which are referred to in the different sections of this report.

13. On the other hand, there was a considerable increase in the receipts collected during the year which totalled LP.30,065 as compared with LP.18,313 last year. The main heads of receipts are as follows : —

		1934/35 LP.	1935/36 LP.
Animal Quarantine Receipts	—	16,131	26,165
Stock Farm Receipts	—	377	289
Poultry and Bee Section Receipts	—	1,475	1,880
Other Receipts	—	330	1,731
Total		LP.18,313	30,065

The principal increase is in animal quarantine receipts due to the considerable increase in the import of food animals.

14. It will be observed from the above statements that the Animal Disease Control (Veterinary Field, Laboratry and Animal Quarantine) Sections, including Administration, are more than self-supporting, the expenditure amounting to LP. 24,078 and receipts to LP.27,896.

IV. ANIMAL DISEASES.

15. There was no outbreak of serious epizootic diseases, such as cattle plague, bovine contagious pleuro-pneumonia or haemorrhagic septicaemia, during the year under review, and the country has remained free from foot-and-mouth disease since September, 1933.

Tick Fevers.

16. The losses of cattle, particularly in imported and grade dairy cows, although still serious, have been greatly reduced in those settlements where cattle dipping tanks have been provided by settlers and where cattle were dipped regularly in a reliable cattle tick destroying solution throughout the tick season ; the mortality, cases of fever and losses in milk yield have decreased, and the profitability of such herds has improved.

260 cases of tick fevers (the majority caused by the parasite Theileria annulata) in cattle, of which 55 died, were reported.

Ten outbreaks of anaplasmosis in sheep and goats were also reported involving 4,000 odd animals of which 311, or 8%, died. Most of these animals suffered from fever and, later, from profound anaemia and debility.

There is no satisfactory treatment for these fevers of livestock and sickness and deaths can be prevented only by the destruction of ticks — the 'carriers' of the disease.

The benefits accruing from dipping are now realised and appreciated by settlers who have constructed ten cattle dipping tanks during the year, making a total of twenty one in the country. It is anticipated that additional tanks will be erected next year and it is hoped that in course of time adequate facilities for the dipping of livestock, particularly in tick infested areas, will be provided.

Sheep dipping demonstrations were continued in various centres with excellent results. The issue of Government loans to groups of villages for the construction of permanent concrete sheep dipping baths was also continued and as a result eight such baths were provided, apart from six constructed by other means, making a total of nineteen sheep baths now in the country. Sheep dipping powder for the first season's dipping was issued gratis in all cases.

Bovine Contagious Abortion.

17. The eradication of this disease from the dairy herds of the country is gradually being achieved.

There are now 89 herds comprising 6,426 cattle under test, as compared with 64 herds comprising 4,817 cattle in 1934/35 and 54 herds comprising 3,302 cattle in 1933/34. Of the 89 herds under control, 77 are now entirely free of the disease and in one out of the remaining 12 herds no positive cases were detected for the last six months.

26,362 blood samples were taken from cattle by Veterinary Officers and tested by the Government Veterinary Laboratory in connection with this work during the year. In addition, 2,300 tests were conducted by the Laboratory, as compared with 1,015 tests last year, at the request of purchasers of cows and fees charged for such tests amounted to LP.188.—

The profitability of those dairy herds from which the disease has been eradicated has greatly increased. Cattle breeders more than ever realise and appreciate the importance of stocking their farms and replenishing their herds

only with cattle drawn from abortion-free herds, and enhanced prices for such cows are paid as compared with those paid for cows of similar milking and other qualities originating from herds which are not under Government control.

All imported dairy cattle are now tested during detention in quarantine for possible infection with bovine contagious abortion and reactors to the test are slaughtered.

Bovine Tuberculosis.

18. The scheme for the control and eradication of tuberculosis in cattle which was submitted last year has now been considered by Government. It was decided that in the first place the present incidence of tuberculosis in dairy cattle should be determined so that it could be compared with the incidence recorded in 1928. Arrangements will therefore be made during next year to carry out this survey.

Black Quarter in Cattle.

19. A single outbreak of this disease was reported in October, 1935, at Mischmar hay-Yarden settlement, Safad Sub-District, where 6 heifers died. 200 cattle were vaccinated and further deaths thus prevented.

Anthrax.

20. There were seventy two outbreaks reported involving 17,935 animals, of which 770, or 4%, died. 17,165 animals exposed to infection were vaccinated and further mortality thus prevented.

The incidence of anthrax during the last five years is recorded in Appendix No. 1.

Anthrax, which is widespread in this country, causes considerable mortality each year, chiefly among sheep and goats. Such losses can be prevented by vaccinating stock.

The Veterinary Service has continuously advocated this practice and during the year under review the value of protecting sheep and goats against anthrax by vaccination was demonstrated on a large scale in Jerusalem District. Over 40,000 sheep and goats were so treated with the assistance and cooperation of flock-masters who contributed at the rate of 10 mils per head to meet the cost of the vaccine. There were no deaths due to such vaccination and no mortality due to anthrax among the vaccinated animals during the year, while, on the other hand, in villages where vaccination had not been practised, losses from anthrax were considerable. These results speak for themselves and it is hoped that it will be possible in the course of time and with the assistance of farmers to extend the practice of annual protective vaccination of stock against anthrax throughout the country.

Annual protective vaccination of dairy and other livestock in a large number of Jewish settlements has become a regular practice. This work is undertaken mainly by the veterinary surgeons of the Hachaklaith Mutual Cattle Insurance Society and it is noteworthy that no losses are sustained by farmers since this practice had been adopted.

Dourine.

21. Rules providing for the destruction of infected mares were made under the Diseases of Animals Ordinance in December, 1935. These rules will greatly assist in the control of this disease and its gradual eradication.

The blood testing of equines in control of dourine was continued and 3,519 animals were tested during the year ; of these, three stallions and fifty nine mares proved positive. The infected stallions were castrated, eight of the infected mares were destroyed and the remainder branded with letter 'D' on the near quarter and their owners served with notices to the effect that breeding from such mares is prohibited.

Efforts to trace, test and license travelling and other stallions used for breeding of mares and donkey mares before and during the breeding seasons were continued and as a result 36 stallions were tested and licensed in accordance with the provisions of the Dourine Rules.

At the request of the Senior Veterinary Officer, Trans-Jordan Frontier Force, blood samples of mares selected for breeding to the District Stud Stallion of the Force in Trans-Jordan were tested for possible infection with Dourine by the Government Veterinary Laboratory.

Additional funds have been provided in the estimates for the year 1936/37 to allow of greater progress being made in reducing the incidence of dourine and for ridding the country of this very serious horse breeding disease.

Glanders.

22. Six horses affected with this disease were reported during the year. They were destroyed and buried and their owners compensated for loss sustained in accordance with the provision of the Diseases of Animals Ordinance, 1926.

Epizootic Lymphangitis.

23. Seven cases of this disease were reported as compared with two last year. They occurred chiefly in Safad Sub-District. The animals were destroyed and deeply buried and their owners compensated for loss sustained.

Mange in Horses, Mules, Donkeys & Camels..

24. The number of animals examined, those found diseased and the number of the premises disinfected in connection with this disease during the last five years, are set forth in Appendix No. 2.

The efforts of the field veterinary personnel to keep this disease under control were unremitted throughout the year. Villagers are beginning to realise the benefits of treating their animals in the early stages for mange and many practise now the treatment, particularly in the case of camels, voluntarily.

Diseases of Swine.

25. No case of swine fever or swine erysipelas was observed or reported.

Sheep and Goat Pox.

26. Thirty seven outbreaks of sheep and goat pox were recorded as compared with twenty six last year. Of 4,408 animals involved in these outbreaks, 226, or 5%, died. Similar measures to those taken last year were adopted to prevent the spread of the disease to other flocks and herds.

Scabies in Sheep and Goats.

27. Six outbreaks of scabies in sheep and goats were detected involving 1,532 animals of which 94, or 6%, died. The flocks and herds were segregated and dipped twice in an arsenical solution with satisfactory results.

Parasitic Gastro-enteritis in Sheep and Goats.

28. Deaths to the number of 197 in sheep and goats were recorded due to this disease which was reported to have occurred in six flocks. This disease causes considerable losses during those years when the climatic conditions are favourable for the development of the larvae of the responsible parasite.

The best preventive treatment at present known is the regular drenching of sheep and goats every month with a 1% solution of copper sulphate and this method is continually advocated and demonstrated to flock-masters by officers of the Veterinary Service. Despite such efforts, however, few flock-masters adopt the practice partly due to the trouble involved and principally due to their apathy and ignorance.

Infectious Pleuro-pneumonia of Goats.

29. The country has been remarkably free from this infectious disease due most probably to the milder winters experienced during the past three years. One outbreak only was reported.

Rabies in Animals.

30. Rabies in animals is endemic in this country. Every effort is being made to reduce the number of wild animals, such as foxes, jackals and hyenas, and stray dogs and cats, which animals play an important role in the spread of the disease. There was an appreciable decrease in the incidence of rabies during the year. Ninety seven cases were reported of which sixty five were in dogs, as compared with 142 cases last year. Of 106 brains of suspected rabid animals submitted to the Government Central Laboratories, Department of Health, for examination, forty proved to be positive for rabies.

614 suspected rabid animals were placed under observation in municipal kennels, of which seventeen developed rabies. One horse and one mule which had been bitten by animals suspected of being affected with rabies were vaccinated with antirabies vaccine supplied by the Government Central Laboratories, Department of Health.

16,426 animals, namely, 13,598 dogs, 1,237 cats and 1,591 jackals and foxes, were destroyed in towns, villages and rural areas with the assistance of the Police, Municipal Corporations and Local Councils. 1,182 dogs were licensed and registered under the Municipal bye-laws, the majority being in the towns of Jerusalem, Haifa, Jaffa and Tel Aviv. The incidence of rabies and the number of animals destroyed during the last five years is shown in Appendices Nos. 3 and 4.

Diseases of Poultry.

31. The general condition and health of poultry kept under the modern system of poultry raising has been good.

Several outbreaks of infectious and contagious diseases occurred — the majority among poultry kept under back yard or primitive conditions. Fortunately, they did not spread to such an extent as to assume serious epidemic proportions, although several individual poultry-keepers' losses were grave.

Fowl Pox.

32. Fowl pox is widespread in the country. Outbreaks are reported throughout the year but the disease is more prevalent during the summer and early winter months. 84 outbreaks were reported, and poultry-keepers were advised to destroy badly affected birds, to remove and isolate other sick birds, to clean and disinfect poultry houses, and to vaccinate their flocks with pigeon pox virus vaccine obtainable from the Government Veterinary Laboratory. Poultry farmers were also urged to protect their flocks against fowl pox by vaccination. Several of them did so with encouraging results. Although cases of fowl pox were observed in some instances to occur later among vaccinated fowls, outbreaks in such flocks were as a rule very mild and of little economic importance.

Fowl Paralysis.

33. Although this disease is known to be very prevalent in Great Britain and the United States of America, it is only occasionally that cases resembling specific fowl paralysis are met with in Palestine. Two such cases were observed among imported breeding fowls both of which subsequently died and a few cases have been observed among fowls bred in this country. Poultry keepers are advised to refrain from breeding from a strain of fowl in which cases of the disease are noted as it is thought that in all probability this disease is hereditary.

Leukaemia.

34. Several cases of this disease were observed on post-mortem examination and a certain percentage of the annual mortality on most modern poultry farms is no doubt due to this disease. Although Leukaemia in fowls, speaking generally, has not assumed epidemic proportions, on some farms mortality due to this disease reached 10% to 15% during the year.

A Virus Disease hitherto Unknown.

35. A disease of an hitherto unknown virus disease of fowls occurred in Haifa and Tulkarm Sub-Districts in October, and continued until November. The area was declared to be infected and all movement of poultry into, out of and within, such area prohibited. The disease caused a sudden and rapid mortality in flocks attacked, amounting in some instances from 80% to 90%.

Further particulars of the nature of this disease will be found in the report of the Veterinary Pathologist (Annexure 'A').

Cell Inclusion Disease.

36. Several outbreaks were reported and in some mortality reached 100%. Usually, the mortality ranges from 10% to 20% and appears in a more or less mild form. There is no known treatment or prevention of this disease.

Fowl Cholera.

37. Fowl cholera is endemic in this country and outbreaks are liable consequently to occur at any time. During the year there were reported over 30 outbreaks. These outbreaks occurred mainly during the late summer and early winter months and chiefly among poultry kept in back yards and under primitive conditions. In all cases it was ascertained that newly purchased birds from nearby villages and itinerant hawkers had been introduced for

food purposes. The premises of modern poultry keepers were, with one or two exceptions, not affected. The nature of the disease, methods of spread, and way and means of combating and preventing it, were explained to poultry keepers by touring officers.

Spirochaetosis.

38. This disease is endemic in Palestine. It is transmitted by the fowl tick Argas persicus and the mite dermanyssus gallinae. This tick and mite are to be found in the majority of poultry houses in this country. The prevention of this disease lies consequently in the destruction and eradication of these parasites. The life cycle of these parasites and the methods which should be applied for their destruction in poultry houses and runs was and is explained to poultry farmers by touring staff. Some success has been obtained in the treatment of sick fowls with various arsenical preparations such as "Spirocid", Neosalvarsan and Atoxyl.

An attempt to protect one flock which was heavily infested with ticks and mites by vaccination was made with encouraging results. The fowls were inoculated with infected blood and after 24 hours injected with Neosalvarsan.

The Hebrew University is studying Spirochaetosis in fowls. The purpose of such studies is to discover an effective method of immunising chickens against the disease.

Coryza.

39. Infectious coryza is commonly met with among pullets during the summer months. This disease retards growth and development necessitating heavy culling of young birds. Sanitary measures and symptomatic treatment was advised with varying results. Little is known as to the etiology of this disease and investigation and research work on this disease is very necessary.

Fowl Typhoid.

40. A few outbreaks of fowl typhoid occurred and were controlled by quarantine measures, disinfection of premises and protective vaccination. The vaccine supplied by the Government Veterinary Laboratory for the purpose proved efficacious.

Avian Tuberculosis.

41. This disease is not found among flocks of modern poultry farms for the reason that very few hens over two years old are kept on such farms.

Isolated cases were detected on post-mortem examination of imported fowls and among poultry in the markets.

Coccidiosis.

42. This is the most prevalent infectious disease of chicks in Palestine. Lectures as to the methods of prevention of the disease on modern poultry farms were and are given by touring officers to poultry keepers. The importance of suitable brooder houses, the maintenance of clean and sanitary poultry houses and yards, and the rearing of chicks on wire netting floors, was stressed.

Internal Parasites.

43. Tape worms in poultry are commonly found on post-mortem and heavy infestations in several flocks of birds were detected.

The feeding of fresh skimmed milk undoubtedly facilitates the spread of these parasites throughout the flock, as such practice attracts large numbers of flies. The maintenance of a high standard of cleanliness, sanitation and hygiene of poultry houses and yards in the case of every farm was and is stressed by touring officers. Various drugs were tried in the treatment of infected flocks, and Kamala was administered in some cases with fair results.

Nutritional Diseases.

44. Avitaminosis was prevalent during the summer months, particularly in laying pullets, caused by not feeding sufficient green food. Cod liver oil was recommended as a substitute but due to its variability in quality results in feeding it were not always satisfactory. Corn silage was fed on two farms as an experiment with encouraging results.

Visceral gout was frequently observed among flocks which were fed with a ration too rich in protein.

Miscellaneous Conditions.

45. Cannibalism, tumours, eversion of the oviduct, bumble foot, and various pathological conditions due to faulty anatomy and physiological defects, were observed.

Bee Diseases.

46. Good progress continues to be made in the control of foul brood disease of bees. The majority of modern hives were inspected and only a few infected colonies of bees were found. These were destroyed and the hives disinfected.

Advice was given to bee-keepers by Bee Inspectors on wax moth destruction and other bee diseases' control, and methods of treatment of affected colonies was explained to them.

V. QUARANTINE.

47. The prevention of the introduction of major epizootic diseases into this country is a difficult and arduous task requiring carefully designed measures and constant vigilance on the part of the quarantine staff. The land frontiers are passable and fordable by livestock at innumerable places, especially during the dry season, and natural features do not assist frontier patrols to the extent necessary to prevent entirely the smuggling of animals. The task of preventing the introduction of diseases which are endemic or which may suddenly appear in adjacent territories is rendered still more difficult by the ever-increasing imports of slaughter animals and poultry and dairy cattle and the large traffic in other animals from adjacent territories, to meet local requirements.

48. There is a chain of fourteen land frontier quarantine stations situated at the main points of entry into Palestine from adjacent territories, while all animals imported from overseas are detained in quarantine at Haifa Port Animal Quarantine Station.

49. Special conditions under which various categories of livestock may be imported by sea or land routes into Palestine from different countries, are prescribed by rules made under the Diseases of Animals Ordinance, 1926, and all imported animals are subject to the general conditions of import prescribed by the Animal Quarantine Rules, 1931.

Land Frontier Quarantine Stations.

50. There has been a marked increase in the number of animals imported by land through land frontier quarantine stations, particularly in the case of cattle, sheep and goats. 14,924 cattle and 207,207 sheep and goats were imported during the period under review as compared with 9,053 cattle and 97,072 sheep and goats imported during the preceding year. Imported animals are detained in quarantine for varying periods and carefully examined for possible infection with disease before release. Imports of poultry by land route from adjacent territories have, on the other hand, decreased due mainly to the large numbers imported by sea route referred to later.

14,761 transport animals engaged in the transportation of goods and passengers across the frontiers were also examined as to their freedom from disease before being permitted to enter the country.

Quarantine receipts from these stations totalled LP.7,438 as compared with LP.5,470 collected during 1934/35.

Certain additional buildings have been erected during the year at a number of quarantine stations to provide shelter for drovers and animals detained in quarantine and living accommodation for quarantine personnel. However, frontier stations are not as yet fully equipped with buildings to provide proper accommodation for staff and shelters for animals.

Officers in charge of frontier stations have now been provided with horses, which is of great assistance in the patrolling of frontiers and preventing the smuggling of livestock.

Haifa Port Quarantine Station.

51. The number of cattle imported by sea through the Port of Haifa for slaughter in quarantine in the main towns of Palestine has greatly increased. 25,000 cattle were so imported as compared with 17,900 last year. Imports of slaughter sheep and goats were steady, while imports of poultry from overseas increased from 27,650 in 1934/35 to 1,390,000 in 1935/36.

Quarantine receipts from Haifa Station totalled LP.16,840 as compared with LP.10,317 last year.

To cope with the increased work at this station, an Assistant Quarantine Veterinary Officer was appointed in May, 1935, and the establishment of cleaners was increased.

Different buildings, particularly sheep shelters, were erected at this station during the period under review and further funds have been voted to enable the construction of adequate accommodation for imported animals.

Of the total number of 25,958 slaughter cattle imported 18,043 were introduced from Roumania and 3,700 from Bulgaria. The bulk of the sheep and goats imported by sea came from Turkey and Syria.

Imports of Dairy Cattle.

52. Imports of dairy cattle, to meet local demands for liquid milk and dairy products, increased considerably. 2,326 dairy cattle were imported during the year, as compared with 609 in 1934/35. Of these, 838 came from Roumania, 500 from Germany, 486 from Holland and 276 from Switzerland.

In connection with these imports, which are subject to special permits issued by the Chief Veterinary Officer, over fifty permits were issued during the year.

Imports of Poultry.

53. In February, 1936, new rules prescribing and regulating the importation of poultry by sea and land were introduced. The main features of these rules are that no person is permitted to import any poultry, whether by sea, rail or motor transport, unless he is in possession of suitable premises — which can be easily disinfected — properly equipped with detention cages of an approved pattern. Imported poultry are detained in quarantine on such premises for six days. One group of poultry importers has already constructed up-to-date premises while two other groups are reconstructing their present premises.

Six poultry quarantine superintendents and guards were employed in connection with the imports of poultry. They escort the poultry from the Port to the approved detention premises and guard these premises with a view of ensuring that the provisions of the rules referred to above are given effect.

Diseases detected at Quarantine Stations.

54. Seventeen cases of anthrax were detected in different consignments of imported livestock. Four cases of foot-and-mouth disease in a consignment arriving from Iraq were observed and all animals were detained in quarantine for a long period.

A number of cases of mange were suitably dealt with and poultry affected with fowl cholera and fowl pox together with the in-contact birds were slaughtered and destroyed.

Animal · Quarantine Rules, 1931 — Amendment of and Additions to.

55. In connection with representations made to the Chief Veterinary Officer for permission to import dairy cattle from different countries, rules were published under the Diseases of Animals Ordinance, 1926, prescribing and regulating the importation of such cattle from Austria, Bulgaria, the Irish Free State, Latvia, Roumania, Switzerland and Yugoslavia.

The embargo on cattle from Poland, referred to in the report for the year ending March, 1934, was removed in view of that territory being declared to be no longer infected with Bovine Contagious Pleuro-pneumonia, and the importation of cattle for slaughter and breeding purposes permitted subject to certain quarantine measures before export.

Details of Imports.

56. Details of the numbers of animals examined and fees collected at each quarantine station, of transport animals which passed through stations, and of imports by countries, are given in Appendices Nos. 5, 6 and 7.

Imports & Exports of Animal Products.

57. Consignments of imported and exported hides, skins and other animal products, were examined as usual by Veterinary Officers.

The number of hides and skins imported and exported during the last five years is shown in Appendix No. 8.

VI. SLAUGHTER HOUSES AND MEAT INSPECTION.

58. Since the promulgation of the Slaughter-House Rules in 1927, several new up-to-date slaughter houses have been built, existing ones have been considerably improved, and processes of slaughtering and dressing of carcases therein on sanitary lines and a system of meat inspection introduced.

Training of Meat Inspectors.

59. A two-months' theoretical and practical course of instruction for candidates nominated by Local Authorities to fill vacancies on the establishment of meat inspectors was held during the period under review at Jaffa. Lectures on the principles of meat inspection were given by the Government Veterinary Officer and the students practised meat inspection at the local Slaughter-House. Three candidates were trained.

New Slaughter-Houses and Improvements to existing Slaughter-Houses.

60. A slaughter-house was erected at Rehovot in Ramle Sub-District, the construction of new slaughter-houses is nearing completion at Beit Jala and Beit Sahur in Jerusalem-Jericho-Bethlehem Sub-District, while an up-to-date slaughter-house and animal market are under construction at Hebron.

Different improvements and additions to existing slaughter-houses, to facilitate the slaughter of animals and the conduction of meat inspection and to enable the sanitary handling of the meat, were also made during the year under review.

Number of Animals Slaughtered.

61. According to returns submitted by Local Authorities, some 52,000 cattle, 223,000 sheep, 90,000 goats, 850 camels and 720 swine were slaughtered during 1935/36 in 43 slaughter-houses. Of the total of 365,814 food animals slaughtered, 201,608, or over half, were slaughtered in the four main towns, viz: Jerusalem, Haifa, Jaffa and Tel Aviv.

Details of numbers and kinds of animals slaughtered at each slaughter-house and a summary of those slaughtered during the past four years, are given in Appendices Nos. 9 and 10.

Condemnations.

62. The chief causes for the condemnation of carcases and organs were parasitic affections, such as cysticercus bovis, echinococcus, distomatosis and strongylosis. A number of carcases of imported slaughter cattle and local grade dairy cattle affected with Tuberculosis were destroyed.

The number of carcases, quarters and organs condemned is shown in Appendix No. 11.

VII. VETERINARY SERVICE TO THE PALESTINE POLICE FORCE AND BRITISH TROOPS IN PALESTINE.

63. There are over 700 animals on the establishment of the Palestine Police Force, stationed at some 90 police stations and outposts scattered throughout the country and Veterinary Officers are liable to be summoned to treat a sick or injured police animal at very short notice and at any time during the day or night. This makes it a very hard task.

64. During the period under review Veterinary Officers made 1,849 visits in connection with medical and surgical treatment of police horses, examined 309 horses as to their suitability or otherwise for purchase for police work and 104 animals proposed for casting. Further, they attended 192 Boards of Enquiry held in connection with the purchase and casting of horses.

65. The general condition and health of police animals was satisfactory and mortality and wastage were low. Of 756 horses and camels on establishment, 21 died, 47 were destroyed and 30 were sold during the period under review.

66. 50 police horses were castrated by Veterinary Officers without any casualties.

67. All police stations and outposts where there are mounted police constables are provided with simple drugs and dressings for use by N.C.Os. and police farriers. Stocks of such drugs and dressings are replenished half-yearly by the Veterinary Branch.

68. Appendices Nos. 12 and 13 show the deaths and destructions of police animals and the services rendered by Veterinary Officers to the Palestine Police Force during the last five years.

69. Veterinary Officers have continued to conduct weekly inspections of all army animals on the strength of the British Troops in Palestine and to attend and treat any sick animal against payment of rates allowed by Army Regulations. The general condition and health of such animals was satisfactory.

The Assistant Director of Veterinary Services, British Troops in Egypt, inspected the army animals in Palestine in March, 1935.

VIII. ANIMAL HUSBANDRY.

Balance of Trade.

70. Imports of livestock, meat and meat products and dairy produce increased in value from LP.543,000 in 1933, to LP.918,000 in 1934, and to LP.1,346,000 in 1935. The increase in imports during 1935 under different categories, as compared with 1934, is as follows :—

Category	1934 Imports LP.	1935 Imports LP.
Dairy cattle and slaughter stock	353,009	588,249
Poultry	41,437	133,479
Meat and meat products	47,744	62,736
Dairy produce	263,767	346,311
Eggs	105,633	138,209

Exports, on the other hand, were negligible, the total value amounting to LP.79,000 in 1935, of which the value of hides, skins and animal casings amounted to LP.73,000.

Dairy Industry.

71. There has been a considerable development in the dairy industry during the year under review. Some 2,300 dairy cattle were imported from different European countries. New dairy herds have been established while the existing ones have been extended.

72. It is estimated that fifty million kilogrammes of cow's milk is produced annually in the country. Large quantities of butter, cheeses and condensed milk continue to be imported. Imported butter and cheeses are sold at prices with which local producers cannot successfully compete.

The special sub-committee of the General Agricultural Council, referred to in my last year's report, which was set up to study the whole dairy industry with the view of formulating recommendations as to what measures should be taken to correct this state of affairs, has not completed as yet its work.

Distribution Cooperatives.

73. Producers have formed cooperatives so as to be able to sell their milk in towns. The most important of these cooperatives is the 'Thnuva' Cooperative Marketing Institution which was established in 1926 and which has contributed a great deal towards the development of dairy farming in Palestine. The increased quantities of milk produced by settlers have necessitated the expansion of this Cooperative Institution to enable it to deal with the large quantities of milk distributed in liquid form and to convert the remainder into butter, cheeses and other milk products. This Institution alone disposed of about 12 million kilogrammes of milk during the year ending 30th September, 1935, of which about 36% were sold as liquid milk and the remainder converted into dairy products. "Thnuva" has also recently fixed the prices for milk supplied by the member-producers according to its fat content percentage, grants prizes for clean milk and fines producers of unclean milk. As a result, the quality of the milk and its cleanliness have improved.

Modern dairy buildings, fully equipped, have been built by "Thnuva" in the towns of Jerusalem, Tel Aviv and Haifa. All milk of member-producers is sent to these dairies, where part of it is pasteurised, and from where it is distributed to consumers. The balance of liquid milk unsold is converted into butter, cheese, lebben, keffir and other milk products and sold.

Breeds of Dairy Cows.

74. About 80% of the dairy cows in the country are crosses of pure-bred Dutch bulls and local cows, particularly of the Damascus breed. Of the remainder, about 6% are pure-bred Dutch, 4% Damascus and Lebanese and 10% Swiss Brown, Ost-Friesian and other cattle.

75. The Dutch breed has been principally used during the past fifteen years with considerable success for crossing and upgrading of the basic breeds of cows available. For instance, in the case of the native cow, the annual milk yield was raised by crossing with Dutch bulls from 500 to 3,000 kilogrammes while in the case of Damascus and Lebanese cows it was raised from 2,500 to 4,000 kilogrammes.

76. Pure-bred Dutch cows continue to give the highest milk yields, the average yield of this breed reaching at Qiryat Anavim and Atarot settlements in Jerusalem Sub-District 5,500 kilogrammes. This breed is valued chiefly by dairymen in the urban areas and during the period under review 548 cows of such breed were imported.

77. As already mentioned above, Dutch cross-bred cows form the majority of dairy cattle in the settlements. Such cows are much appreciated by farmers engaged in mixed agricultural farming. Of 1,090 such cows officially recorded, the average milk yield per head during the milk recording year ending 30th September, 1935, was 3,892 kilogrammes with an average fat content of 3.72%. Of these cows, 190 yielded each over 5,000 kilogrammes and 11 over 7,000 kilogrammes.

78. The Swiss Brown breed of dairy cow, the first consignment of which was introduced in January, 1934, has acclimatised well in comparison with other European breeds previously introduced. The milk yield is not so high as that of the Dutch breed but, on the other hand, the Swiss cow has other advantages, such as good, sound, constitution and a strong resistance to local diseases.

Milk Recording.

79. The first Milk Recording Society was formed with the cooperation of the Jewish Cattle Breeders' Association on October the 1st, 1934, with Headquarters at Tel Yosef, and an official milk recorder was appointed by Government to the Society.

Over 1,400 cows are recorded by this Society which embraces 20 settlements situated in the Jordan Valley, Nuris Block and Affula-Nahalal Block.

The milk recording year commences on the 1st of October and ends on the 30th of September. The first published report of the Society for the year ending 30th September, 1935, shows that 1,222 cows yielded during the year 4,786,954 kgs. of milk, an average of 3,916 kgs. with 3.70% fat per cow.

More details of the performances of officially milk recorded cows are given in Appendix No. 14.

80. The results achieved by this first Milk Recording Society are most encouraging and clearly indicate the necessity for the creation of additional Societies with the financial assistance of Government to embrace all dairy farms in the north-western and southern regions of the country.

The value of the different imported breeds of dairy cows, of the different crosses of native cows with pure-bred bulls of foreign breeds, and of the grades of cows kept under new conditions of feeding, housing and management, which is so vital to the establishment of a sound dairy industry, can only be determined satisfactorily by properly organised and supervised Milk Recording Societies. Further, the practice of keeping records of the quantity and quality of milk of dairy cows is essential in connection with profitable dairy farming and is of value to the breeder, the milk seller and to butter and cheese makers alike.

Feeding of Carob Beans.

81. The feeding of carob beans to dairy cows in most of the Jewish settlements is very popular. They are fed in substitution for a percentage of the barley and other grain mixture of the concentrated ration. Up to 15%

of the grain mixture is replaced by carob beans in the case of full grown cows and up to 10% in the case of young stock. The beans were at the beginning of the trials fed crushed but later uncrushed beans were fed successfully and this practice has been continued. Imported carob beans from Syria and Greece are chiefly used but locally grown beans are now also utilised. The average market price in this country is from LP.3.500 to LP.4 a ton.

The feeding of carob beans in substitution for a percentage of the grain mixture in the rations of dairy cows has reduced the costs of feeding such cows by an appreciable amount and as the feeding value of the beans is apparently equal to the percentage of grain mixture, no fall in milk yields due to the substitution has been recorded.

Geva group is now considering the planting and cultivation of carob trees for the express purpose of producing carobs for cattle food.

Analysis of Palestine Carobs.

82. Three samples of Palestine carob beans — Baladi, Sandalam and Jewi commercial varieties — were forwarded to the Imperial Bureau of Animal Nutrition, Aberdeen, Scotland, during 1935, for analysis. The results of analysis (per cent) are shown in the following table (columns 1, 2 and 3) and are compared with a sample received by the Duthie Stock Farm, Rowett Institute in 1924 (column 4) and with the average of some South American samples which were also used on the Duthie Farm some years ago (column 5).

	1 Baladi	2 Sandalam	3 Jewi	4 Rowett Institute 1924	5 S. American Samples
Water	14.00	12.44	12.83		13.51
Crude Protein	4.81	4.87	4.75	4.33	4.31
Ether Extract	0.95	0.80	1.12		0.65
Crude Fibre	5.11	6.96	7.37		6.70
N-free extractive (CH)	73.28	72.41	71.60		72.00
Total Ash	1.85	2.52	2.33		2.83
Insol. Ash	0.020	0.023	0.023		0.036
Nitrogen	0.770	0.780	0.760	0.693	0.689
Calcium (CaO)	0.464	0.468	0.462	0.538	0.532
Phosphorus (P_2O_5)	0.198	0.189	0.166	0.189	0.184
Chlorine (Cl)	0.152	0.250	0.200	0.106	0.163

Animal Nutrition and Dairying Experiments.

83. To elucidate some of the dairy industry's problems, practical experiments are conducted at the Jewish Agency's Agricultural Experiment Station, Rehovot, which is subsidised by Government in the form of grants for specific approved experiments undertaken by this Institution. Some of the experiments at present being carried out by such Institution include :—

(a) the most economic feeding rations for various cows in accordance with their milk yielding capacity ;

(b) the utilisation of carobs in feeding rations ;

(c) the grazing of cattle on lucerne and clover fields instead of stall-feeding ;

(d) the methods of preserving protein rich roughage ;

(e) the keeping of sheep on small intensive farms.

Sheep and Goat Industry.

84. The lambing and kidding season has been the best for several years ; births reaching the high per centage of 80% to 90%. Mortality among young lambs and kids was negligible. These excellent results are attributed to the abundance of early green feed available for pregnant ewes and does and to their plentiful supply of milk after lambing and kidding for the feeding of their young.

The same results cannot be said to have been attained in Beersheba District. Here, due to the scarcity of rainfall, grazing was very poor from December onwards, resulting in a lower birth rate and subsequent losses in lambs and necessitating the movement of flocks into Trans-Jordan and the Northern parts of Palestine in search for food.

Wool.

85. The estimated wool crop of local sheep during 1935, totalled 623,000 kilos as compared with 495,000 kilos for 1934 — an increase of approximately 130,000 kilos. The estimated production of wool for the last five years is shown in Appendix No. 15.

Milk Yields.

86. It has not been possible so far to record the milk yields of native ewes and does kept under village and beduin conditions but it is estimated that the average annual milk yield of a native ewe is 50 litres and that of a doe 75 litres, excluding the milk consumed by the lambs and kids in early life.

According to milk records kept by some of the settlements, the average annual milk yield of native ewes kept on a semi-intensive system is (a) for first lambing ewes 70 kilogrammes and (b) for second and subsequent lambing ewes 100 kilogrammes ; the average fat content being 8.6% and the average period of lactation five months.

Sheep and Goats of Settlements.

87. Flocks and herds kept on the semi-intensive system in settlements have given good results.

88. The Association of Jewish Sheep Breeders now comprises 22 settlements with about 5,000 head of sheep and 1,000 head of goats, according to the Association's enumeration taken in October, 1935. Since such date, their flocks have been increased by about 20%.

89. Sheep and goats are to be found in other settlements in upper and lower Galilee and in Samaria but their numbers are not accurately known.

90. The flocks and herds belonging to members of the Association are all satisfactorily housed and yarded and in addition to grazing are hand fed during the summer and autumn months.

The standard concentrated mixture consists of 25% bran, 25% barley, 48% cake, 1% bone meal and 1% common salt. Some 250 grammes of this

mixture is fed per head daily to young stock and to all sheep and goats during November, December and January. Lambing ewes and ewes-in-milk are given from 500 to 750 grammes of this mixture. Oat, clover, pea and bean straw, and maize stalks, are fed at the rate of from 500 to 1000 grammes per head daily, in addition to the mixture, according to the stock of such feeding stuffs available.

When grazing is plentiful (March to October) hand feeding, with the exception of ewe lambs and breeding rams during the tupping season, is discontinued.

91. The estimated annual milk yield of sheep and goats belonging to members of the Jewish Sheep Breeders Association is 280,000 and 120,000 kilogrammes respectively. About half of the sheep milk and 100,000 kilogrammes of the goats' milk was sent to the dairies of "Thnuva" Cooperative Marketing Institution where it was made up into different kinds of cheeses which find a ready market in the country. The other half of the sheep milk and about 20,000 kilogrammes of the goats' milk were, apart from a small percentage used for consumption, utilised by the settlements' dairies for the manufacture of cheeses. These cheeses are made under the supervision and instruction of an expert, in order to ensure good quality and uniformity of the products. They were also disposed of through "Thnuva".

Sheep Breeding Experiments.

92. (1) In 1933, with the view of ascertaining whether a commercial early maturing cross-bred lamb could be obtained by crossing native ewes with imported rams, a few Scotch black-face rams were purchased for the Government Stock Farm at Acre. Later, a number of Dorset Horn and Dorset x Cheviot rams were presented to the Stock Farm at Acre for the same purpose. The results of these crossings are set out in detail in Annexure 'D'.

Briefly, these experiments show that this country is unsuitable for sheep of a non-fat-tail variety. Such varieties of sheep, which have been evolved and bred in a country where regular rainfall produces green grasses in greater or lesser quantities all the year round, are unable to withstand the climatic conditions and to survive on dry grazing for the greater part of the year. Further, such sheep and their progeny have no fat tails to sustain them during periods of drought and they are very susceptible to local diseases.

Karakul Sheep.

(2) The pure-bred karakuls imported in 1934 and 1935 have acclimatised extraordinarily well and have shown their ability to withstand the hot climate of the country.

The karakul cross-breds have done well. After weaning they made more rapid progress than the Awasi controls, with a combined daily weight gain 3 times greater than that of such controls. During the severe hot "Khamseen" weather these cross-breds, unprotected from the direct rays of the sun and scorching winds, grazed as usual at pasture, water consumption being normal. During the most difficult months of the year (September and October), when pasture is scarce, these crosses still held their own with the hardy Awasi controls and showed an average daily gain in weight superior to them. They are now strong, healthy, alert and well developed young animals showing excellent promise as breeders, and they will be mated to pure-bred karakul rams in August, 1936.

Twelve skins of lambs, resulting from the first crossing of the local fat-tail variety of native ewe, 'Awasi', with pure-bred Karakul rams, were

forwarded to the Imperial Institute, London, for a report on the quality and value of the skins. The following is an extract from the report received.

> "It will be seen that the first crossing of pure-bred Karakul rams with the local "Awasi" ewes has given highly satisfactory results ; the experts' reports showing the skins produced to possess on the whole very promising characters. All the 12 skins submitted would be saleable while 5 of them are of fair value, being priced at 15/— or over per skin. These results for a first crossing are considered to be exceptionally good".

The experiments are being conducted with the object of producing a high-priced lamb skin and at the same time maintaining the milk yield of the producing ewes. When this has been achieved experimentally, sheep raisers will be encouraged and assisted to produce such skins on a sufficiently large enough scale to establish an industry in the production of lamb fur skins.

Improvement of Village Livestock.

93. Good progress in the improvements of village livestock continues to be made. 50 bulls of Lebanese, Kerry and Boaz breeds were again distributed on loan to villages as in previous years. The progeny of these bulls are now to be seen in appreciable numbers in several villages. They are much prized by the fellaheen who in the majority of cases refuse to part with them at any price. The demands for the Lebanese bulls greatly exceed the supply. The Kerry bulls also are much liked and the first crosses are most encouraging. Good-sized robust calves have been obtained from the Boaz bulls and are appreciated by the village using them.

94. The first foals of the West Highland Pony Stallions were born in January. They are of much better conformation and constitution than the local breed "Kedish" foals and should, when fully grown, be excellent general utility animals. The mares of this cross should produce a first class mule if put to a good quality donkey stallion.

95. Ten Government jackasses and one Arab stallion stood at stud in the Districts during the year.

96. The Government's premium bull scheme was continued and extended. Premiums to the value of LP.438 as compared with LP.288 were awarded in respect of 73 selected and approved village bulls distributed in 46 villages, as compared with 48 bulls last year. All other bulls of these villages were sterilised by Burdizzo's method. In addition, premiums to the value of LP.174 were awarded in respect of 33 approved donkeys for the improvement of mule and donkey breeding. These premiums are very popular among the fallaheen and requests for an extension of the scheme to embrace other villages are numerous.

Castration of Village Livestock.

97. The sterilisation and castration of inferior and scrub male livestock in the villages was continued and several private veterinary surgeons were temporarily employed to assist Government Veterinary Officers during the castration season. Over 3,000 animals, of which 1,120 were bull-calves or bulls, 870 donkeys and 171 horses were operated on as compared with 2,100 animals last season. Further details are given in Appendix No. 16.

Poultry Industry.

98. Poultry farmers are finding it increasingly difficult to compete in the local market for eggs and poultry with foreign imports. Although poultry farming continues to extend, the rate of progress is very slow and out of all proportion to local requirements. This is largely due to the small profits obtainable (and in some instances none at all) by poultry raisers resulting from foreign competition.

Last year about 80 million eggs and 2 million live fowls were imported. The local market value of these eggs and birds is estimated at about LP.500,000.

The prices at which imported eggs and poultry were sold were in the case of eggs so low that the margin of profit obtained by some producers was negligible and in the case of live fowls below the cost of production of home-produced birds.

Government has had under consideration for some time the question of protecting the poultry industry by the imposition of suitable tariffs on imported eggs and live and dressed poultry and it is hoped that in the very near future such tariffs will be introduced and the justified demands of poultry raisers satisfied. There is no doubt that given adequate protection the poultry industry will develop rapidly and in course of time not only meet all local requirements for eggs and fowls but be in a position to export same, especially fresh eggs.

Bee Industry.

99. This industry is making good progress and continues to expand and develop. There are now registered in the Department 19,000 bee hives belonging to over 600 beekeepers as compared with 14,000 hives last year.

To encourage and establish modern beekeeping in villages the Government's scheme of issuing bee hive loans has been continued. During the year, 484 bee hives with full equipment were issued to 93 persons, making a total of 2,100 bee hives distributed under this scheme since its introduction 3 years ago.

Duty free sugar to the amount of 193 tons was sold to beekeepers who were registered in the Department at the time. This assistance to the industry was given by Government in view of the indifferent honey crop which was partly a failure last season owing to drought conditions.

Short practical beekeeping courses to beginners and others were conducted as last year at the Government Apiary Acre, and were well attended.

The control of foul brood disease of bees was continued and the majority of hives inspected for the presence of the disease and infected colonies destroyed and hives disinfected.

Acre Stock Farm.

100. The extension of the present irrigation system for the production of green forage was completed. Additional accommodation for stud bulls which now number 50 was provided by making suitable alterations to an existing old building. The sheep-shed was completed and a poultry food store, brooder house, implement shed and an extension to the grain store were constructed.

101. Farm crops were poor due to excessive rainfall.

102. The general health of the livestock during the year has been excellent with the exception of the Damascus goats. The health of these goats broke down in January, 1936, as a result of previous attacks of tick fever. Several mature goats died from profound anaemia, one of the sequelae of this disease, and the condition of the others was for some time serious. With good nursing and suitable feeding and tonic, the health of the herd was gradually built up but unfortunately milk records could not be kept as the female goats had to be dried off.

103. Several calves of Lebanese and Kerry breeds were provided, a good crop of lambs and kids was obtained and five excellent donkey foals were born.

104. The average annual milk yield of the Lebanese herd of cows has now reached 3,081 kilogrammes with a fat content of 4%. Of the Kerry cows recorded one yielded 4,770 kilogrammes with fat content of 4.5% and a second 3,600 with a fat content of 3.95%.

105. The two Guernsey bulls purchased in England arrived in good condition. The older one has been lent to the Jewish Cattle Breeders Association for experimental crossing with a percentage of grade cows, Dutch x Damascus and Syrian, in the different settlements.

106. The flock of "Awasi", native, sheep is gradually being improved by selection and some 50 rams will be available for sale in July, 1936. Similarly the herds of Damascus (red) and Mamber (black) goats have been progressively improved and some 45 bucks will be available for sale next breeding season.

107. The demand for young boars and gilts of the pure Large White and Middle White breeds maintained at the Farm has been good and 34 piglets were sold to breeders. Sales of stock realised LP.166.— and consisted of 31 rams and bucks, 58 ewes and does 16 lambs and kids, 35 piglets, 2 bulls and 3 cows.

Committee on Animal Husbandry.

108. Suleiman Bey Nassif, the Chairman of the Animal Husbandry Committee of the General Agricultural Council, resigned on account of ill-health towards the end of the year. His Excellency the High Commissioner, when accepting this resignation, expressed his appreciation of the valuable services which have been rendered to the interests of Animal Husbandry in this country by Suleiman Bey Nassif's work on the Committee and his hope that the ill-health which has brought those services to an end will soon be overcome.

The Secretary and all members of the Committee wish to record their appreciation of Suleiman Bey Nassif's valuable services and unfailing courtesy as Chairman which will be greatly missed.

No Committee meetings were held during the year on account of the Chairman's continued indisposition and the absence on vacation leave of the Secretary during the summer of 1935.

IX. GENERAL.

Enumeration of Livestock.

109. A livestock enumeration is made every two years. The last enumeration was made in July, 1934, and the results are reported in the report of the Veterinary Branch for the year 1934/35.

Veterinary Surgeons — Licensing of.

110. Six persons, graduates of recognised Universities or Veterinary High Schools, were granted licences to practise veterinary surgery and medicine in Palestine. There are now 75 registered veterinary surgeons in the country.

Legislation.

111. Rules made under the Diseases of Animals Ordinance, 1926, during the period under review are shown in Appendix No. 17.

Veterinary Offences.

112. During the period under review, 318 persons were prosecuted by Veterinary Officers for different contraventions of the provisions of the Diseases of Animals Ordinance, 1926, and rules issued thereunder. Of these, 140 contraventions were in connection with illicit importation of animals and 30 — with the sale of meat which has not been inspected.

Veterinary Legal Cases.

113. Ten cases of suspected malicious poisoning, five cases of taking fish by dynamite, and one case of malicious injury to two donkeys, were attended to by officers of the Veterinary Branch.

Protection of Animals.

114. 85 seized animals were examined by Veterinary Officers as to their fitness for further work under the provisions of the Cruelty to Animals Ordinance and 66 of these were recommended for destruction.

Every effort is being made to protect animals from unncessary suffering and injury while being carried on vessels for Palestine. The attention of the Governments concerned was drawn on different occasions to losses and injuries caused by over-crowding and lack of adequate ventilation on vessels and a draft ordinance was submitted to Government in this connection for consideration.

During the year, with the object of preventing cruelty to fowls in transit, rules prescribing and regulating the size of crates that may be used and the minimum floor space for each bird carried in such crates were published under the Diseases of Animals Ordinance, 1926.

Movement of Animals across the Frontier — Agreement.

115. The agreement concluded between His Excellency the High Commissioner of the French Republic for the States of the Levant under the French Mandate and His Excellency the High Commissioner for Palestine, referred to in my previous report, was renewed for a further period of one year on the 12th of August, 1935.

Three temporary ghaffirs were employed in order to patrol the frontiers and to ensure that the provisions of the agreement regarding the movement of animals across the frontier for grazing purposes were given effect.

Visit of Senior Poultry and Beekeeping Officer to Egypt.

116. The Senior Poultry and Beekeeping Officer paid a visit to Egypt in March, 1936, in order to study local methods of poultry farming. Considerable information has been collected by him and it is proposed to apply the useful knowledge gained of the methods adopted in Egypt to this country, with a view to the extension of the poultry industry in villages.

Visit to Palestine of Officer of the Government of Turkey.

117. Dr. C. Akkerman, Head of the Frontier Police Section of the Veterinary Department of Turkey, paid a visit to Palestine in February, 1936. He toured the country and was shown the field work of the Service by District Veterinary Officers.

118. In conclusion, I wish to place on record my appreciation of the services rendered by the staff of the Veterinary Branch and the work carried out by them, and to express my thanks to officers of the District Administration, Palestine Police Force and other Government Departments for their cooperation and assistance.

J. M. SMITH
Chief Veterinary Officer.

Jerusalem
25th July, 1936.

ANNEXURE 'A'

GOVERNMENT VETERINARY LABORATORY.
REPORT OF THE VETERINARY PATHOLOGIST.

I. GENERAL.

The increase of laboratory work of all kinds has been out of all proportion and has imposed a great strain on the whole staff. Both laboratory and stable accommodation has been taxed to its full limits and it is now impossible to employ further and much needed assistance on this account.

New temporary offices will, however, shortly be available and will permit some expansion as regards routine work.

2. The number of herds under regular testing in connection with plans for the control of contagious bovine abortion have increased from 64 to 89.

The position can now be reviewed with considerable satisfaction. Of 89 herds under control only 10 settlements still retain positive animals and 77 herds have not had a positive case within the last 6 months. This means that a large proportion of the dairy herds in the country are free from the disease and from these, new negative herds can easily be built up. Settlers are fully alive to the benefits of control and 2,300 tests of cattle intended for purchase outside of control measures have been carried out.

3. Complement fixation tests for dourine have been regularly carried out. Of 3519 tests 1.7% have proved positive and appropriate administrative action taken to prevent spread of the disease from these cases. With further assistance it will be possible greatly to increase the number of these tests but the preparation of the reagents required to carry out the tests is an intricate procedure absorbing a considerable amount of time. A feature of the testing is the examination of the blood of mares intended for service by Government stallions and this service has been extended to horse breeding carried out in Trans-Jordan.

4. The number of specimens annually received for diagnosis of all kinds has increased from 3,493 to 36,166 in the course of a few years.

5. New diseases are continually being revealed in this service a knowledge of which is invaluable to the practitioner as well as to the administrative service.

6. Investigational work which is confined to problems of immediate practical importance, has been carried out as far as has been possible in our present circumstances. Tick Fever experiments are still being continued and also methods of serum production in connection with pulpy kidney disease of sheep. Investigation of poultry diseases including a hitherto unknown type of virus is proceeding.

7. During the summer of 1935 the Veterinary Pathologist was absent in Jerusalem whilst acting for the Chief Veterinary Officer who proceeded on leave for 4½ months. During this period Mr. G. B. Simmins Assistant Veterinary Pathologist acted for the Veterinary Pathologist.

II. ROUTINE.

8. A total of 36,166 specimens (not including slides and smears) have been received at the laboratory for examination in connection with routine diagnosis during the year. This is an increase of 8,974 and such increase naturally entails added work in washing, sterilisation, recording etc. Sub-inoculations made in connection with diagnosis have been performed on :—

Guinea Pigs	— 98
Rabbits	— 64
Rats	— 624
Fowls	— 242
Pigeons	— 131
Sheep	— 32
Mice	— 239

Microscopical Examinations.

9. 4,514 slides from 2,063 field cases have been stained and microscopically examined. Appendix No. 18 attached shows the results of these examinations.

Contagious Bovine Abortion.

10. 26,362 agglutination tests of the blood of cattle for contagious bovine abortion have been performed in connection with control schemes. Of these 146 have proved positive and 81 doubtful. 2,300 tests for private practitioners on behalf of persons wishing to purchase cattle free from the disease have been carried out. Of these 270 proved positive and 23 doubtful. 2,058 tests of imported animals in Quarantine have also been performed with positive results in 35 cases. 5,196 agglutination re-tests have been performed in connection with the foregoing. Complement fixation tests are also applied when considered necessary and especially in the case of doubtful reactors, 421 of such tests have been performed during the year. Reactions which are finally considered doubtful have comprised only 0.42% of the total number of tests.

Dourine.

11. 3,519 animals have been subjected to complement fixation tests for dourine. Of these 62 proved positive i.e. 1.7%. All sera are however re-tested in order that there should be no possibility of technical error and the total number of tests have therefore amounted to 7,064.

Anthrax.

12. Material from 358 suspected cases of anthrax have been received of which 207 proved positive. This has entailed the microscopic examination of 622 slides and 301 precipitin tests of spleen pulp. Of the latter 99 proved positive.

Anti Anthrax Serum.

13. 30,442 cc. of this serum have been prepared. The primary intention in the preparation of this serum is as an aid to field staff in case of severe

reactions to vaccination. Practising Veterinary Surgeons are however also supplied on payment of 150 mils per dose and the demand is increasing, but it is not possible with our present facilities to supply this serum for all purposes.

Bovine Mastitis.

14. 215 samples of milk from cows, sheep and goats have been examined with the following results :—

Streptococci	— 61
Staphylococci	— 5
Streptococci & Staphylococci	— 23
B. pyogenes	— 6
B. pyogenes & staphylococci	— 1
Sporebearing bacillus	— 11
Negative	— 108
	215

Epizootic Lymphangitis.

15. 7 suspected cases of Epizootic Lymphangitis have been confirmed by microscopical examination.

Fowl Typhoid.

16. Various types of the causal organism of fowl typhoid occur and the disease is widespread. The routine examination consists of cultural examination of femurs and serological tests of growths obtained. From 334 femurs received 24 proved positive. A polyvalent vaccine is prepared and maintained for issue.

Fowl Cholera.

17. 152 blood films, 87 femurs and 75 fowls have been received from suspected cases of Fowl Cholera and have been submitted to microscopical, cultural and other examination. 84 of these proved positive.

Foul brood of Bees.

18. Routine microscopic and cultural examinations of 12 specimens of comb have been carried out with the following results :—

European Foulbrood	— 5
American Foulbrood	— 3
Sac Brood	— 1
Negative	— 3
	12

Fowl Pox and Diphtheria.

19. This disease is, as in most countries, indigenous. The demand for Pigeon Pox Virus Vaccine has greatly increased, 142,232 doses having been issued this year.

Bovine Coccidiosis.

20. No cases of this disease have been diagnosed this year.

Calf Diphtheria.

21. Material from a calf suspected of being affected with Calf Diphtheria was submitted and the diagnosis confirmed by examination.

Johnes disease of cattle.

22. Three strongly positive cases of Johnes disease have been confirmed.

Pulpy Kidney Disease. (Enterotoxaemia of sheep).

23. Outbreaks of this disease occurred in 10 flocks comprising some 2,337 sheep of which 70 are reported to have died. One outbreak also occurred at Nahalal settlement in a flock of goats numbering 163 head. The usual symptoms were observed and 33 goats died within 10 days. Diagnosis was effected by the injection of bowel filtrate into rats and mice.

No reference to this disease in goats has been seen in any literature execept in memorandum 'A' of the Agricultural Research Council (Committee on braxy-like disease of sheep) published in the Veterinary Record of 13.4.36, page 424, where it is stated that Puply Kidney disease may affect goats.

A vaccine prepared by the Laboratory was extensively used in all the above outbreaks and since then 53,150 cc. were issued.

Coccidiosis of goats.

24. The existence of this disease was confirmed from material submitted from a village on the outskirts of Jerusalem. This disease does not however appear to be prevalent or cause serious loss.

Vaccines and Sera.

25. The following vaccines and anti-sera have been prepared :—

Pigeon Pox Vaccine	— 182,125 doses
Fowl Typhoid Vaccine	— 14,250 "
Pulpy Kidney Disease Vaccine	— 86,950 cc.
Anti Anthrax Serum	— 30,442 cc.
Fowl Cholera Serum	— 14,114 cc.
Pulpy Kidney Disease Serum	— 1,050 cc.
Various anti-sera.	

III. SPECIAL WORK.

26. A great deal of work on investigation is continually necessary on various peculiarities which arise in connection with routine measures if the accuracy of tests, standardisation etc. is to be maintained. Definite research is also essential in the case of diseases newly discovered to exist, work on diseases the causes of which are still obscure and in extending knowledge of existing ones. In connection with this experimental and investigation work 3,837 slides have been prepared, stained and microscopically examined.

Pulpy Kidney Disease. (Enterotoxaemia of sheep).

27. Investigations in connection with the production of a potent anti-serum from sheep and cattle have been carried out. It has been found that large quantities of culture toxin had to be used before a serum of sufficient potency could be obtained and in this connection difficulty was experienced when using cattle as they proved sensitive even when small amounts of killed culture were injected. Further work is being carried out in this direction.

Tests for diagnosis of meat.

28. Anti-sera have now been prepared for the diagnosis of meat from goats and camels, in order to detect fraudulent substitution. Both precipitin and complement fixation tests are applied according to a revised technique.

One sample suspected of being camel flesh was submitted for identification but on testing proved to be from an ox.

Cell Inclusion Disease of fowls.

29. Several outbreaks of this disease occurred during the period under review. It was thus possible to obtain fresh material and further investigation on the properties of the virus of this disease was conducted. A report on this work was submitted for publication in the Journal of Comparative Pathology and Therapeutics in February of this year.

Tick Fever Experiments.

30. Experiments on the value of protective inoculation against tick fevers are still being continued as far as is possible with the limited stable accommodation at our disposal. In addition to locally purchased calves two heifers were imported from England and inoculated with the strain in our possession.

Filariasis.

31. Smears from two horses suspected of Epizootic Lymphangitis were received and on examination larval forms of Filaria irritans were discovered.

An hitherto unknown virus disease of fowls.

32. Outbreaks of disease amongst poultry which in some cases were severe occurred in various areas of the Northern District. From experiments carried out at the laboratory it was found that the cause was due to a filtrable virus. Post mortem examinations of live and dead fowls received from various centres were carried out and it was found that the lesions were confined either to the proventriculus or intestines and in some cases to both. These lesions did not resemble either those of Fowl Plague or Newcastle disease. The intestines when affected showed ulcerations which were not confined to any particular part.

Inoculation experiments were carried out with blood and blood filtrates and also emulsions and filtrates of liver and spleen pulp ; but were not always successful. However on several occasions, it was found possible to passage the virus for several generations, death occurring in 5 to 6 days.

Inoculations of emulsions of liver and spleen into pigeons using the Subcutaneous, intramuscular, and intravenous routes were also successful only on some occasions, death following in 6 — 9 days. Attempts to transmit the disease back from pigeon to fowl or from pigeon to pigeon were unsuccessful.

S. J. GILBERT.
Veterinary Pathologist.

4th June, 1936.

ANNEXURE 'B'.

GOVERNMENT STOCK FARM.
REPORT OF THE MANAGER.

This report is confined to the financial year commencing the 1st April, 1935, and ending the 31st March, 1936.

2. Several purchases of livestock for the Farm were made during the year. Demands for improved sires have been exceptionally heavy which indicates that the results already obtained by farmers from the use of such sires are appreciated.

Prison Labour.

3. The scheme of employing good conduct prisoners has proved very successful and is advantageous to both prisoners and Government. An average of 40 prisoners work daily from 6 a.m. to 3 p.m. In addition, a farm camp for 50 reformatory boys has been established recently. The boys, whose ages vary from 16 to 19 years, work the regular farm hours. So far the scheme has proved very satisfactory. The value of the prison labour to the Farm and Agricultural Station during the year is approximately LP.700.

Farm Crops.

4. Farm crops were poor, due to flooding, and, as a result, only 17.5 tons of barley, 1.5 tons of oats, 11.5 tons of maize and 58.2 tons of hay were produced.

Irrigation.

5. A second pump, capable of producing 50 m^3 of water an hour, was installed, thus permitting a larger area being put under irrigated crops.

Some 700 tons of green forage, such as lucerne, berseem and maize was produced, sufficient for all livestock of the Farm.

Silage.

6. Excellent silage was made by storing some of the green maize in a disused concrete water basin. It is intended to prepare in the same manner silage during the coming season.

Farm Machinery.

7. A power hay press, mowing machine, tine cultivator, Fordson tractor and rotary cultivator attachment, have been acquired. The latter machine was presented to the Farm free of charge by Lt. Col. F.G.G. Bailey, 14, Austin Friars, London, E.C. 2.

Buildings.

8. Improvements and additions were made to the Farm buildings as follows :— a side extension to the main grain store for mechanical workshop, completion of the sheep shed to accommodate 600 head, alteration to old Turkish building to accommodate 60 bulls.

Livestock.

9. The present livestock of the Farm totals 1,083 head ; an increase of 131 over last year. All suitable and young stock are at present being retained as the Farm is not yet fully stocked. For details of the number, kinds and breeds of stock, together with the number purchased and bred on the Farm, see Appendices Nos. 19, 20 and 21.

Health.

10. The general health of the livestock has been good. Ticks are less numerous but until all public roads running through the Farm are closed, it will not be possible to eradicate this pest. Dipping of cattle, sheep and goats was carried out regularly.

Mortality.

11. The following animals either died or were cast and destroyed :— 1 jackass, 1 foal, 137 sheep and goats including lambs and kids, 2 bulls, 1 bull calf, 11 piglets and 2 working animals.

Sale of Livestock.

12. The following animals were sold :— 14 rams and 9 ewes, 49 female and 17 male goats 16 lambs and kids, 2 bulls and 3 cows, 1 sow and 34 piglets.

Distribution of Sires.

13. Selected males of each breed were lent free of charge to farmers during the breeding season as in the past.

14. Bulls were in great demand and farmers came long distances to select them for their villages. 39 Lebanese, 3 Kerry, 1 Guernsey and 6 Boaz bulls were given out on loan on the condition that they were fed by villagers. It was only in the case of 6 bulls that Government had to supply forage this year, whereas last year practically all bulls given on loan had to be fed at the expense of Government.

15. There was a good demand for the services of the jackasses. 10 stood at stud in the districts and 2 at the Farm, and over 300 services were made of which 90% were for mule breeding.

16. The two available Arab stallions were stationed at Safad and Acre respectively. The former served 60 mares and the latter 42. One young stallion bred on the Farm was used for breeding the mares of the Farm.

17. The two West Highland Pony stallions were retained at the Farm and served 28 mares during the season. The progeny of the local mares bred to these ponies last year are now appearing. The young foals of this cross are of a much better conformation and constitution than the local bred foals.

Cattle.

18. Lebanese — The herd of Lebanese cows has been increased. This now consists of 20 cows and 7 heifers, 45 bulls and 8 bull calves.. This breed has acclimatised well and exhibits a strong resistance to tick fevers. During the whole year not a single case of tick fever occurred among these cows on the Farm although they were kept day and night out of doors during the summer months when ticks are plentiful.

19. It will be observed from perusal of Appendix No. 22 that of the Lebanese cows which have completed their 2nd and 3rd lactation periods an average yield of 3,081 kilos of milk with approximately 4% butter fat has been attained, nearly 4 times as much as the yield of an Arab cow. Other Lebanese cows have however reached only 2,300 kilos. Although this is a much higher yield than that of the native breed of cow, all cows which do not yield 3,000 litres a year will be culled from the Farm herd in course of time.

20. Kerry — The herd of Kerries consists of 8 cows, 5 bulls and 4 calves. So far they have withstood the climate well, are in good health, and milk production has been satisfactory. They were kept under specially good conditions and given every attention as they had only recently been imported. Unfortunately one bull calf contracted tick fever and died.

21. The milk records of these cows are quite satisfactory ; for details see Appendix No. 23.

Two Kerry bulls were used for crossing native cows in the districts. The calves born show the influence of the Kerry blood and are of fairly good quality.

22. Guernsey — 2 Guernsey bulls were imported in October, 1935, both of a very good milking strain. These bulls will be used for experimental crossings with grade Dutch x Damascus and Dutch x Lebanese cows, with the object of increasing the butter fat content of milk of their progeny. The older bull is at present being used by the Cattle Breeders Association in different settlements.

23. Boaz, or Turkish, breed — This herd consists now of 3 cows, 3 calves and 6 bulls ; 3 heifer calves having been sold to farmers in Nablus Sub-District. The bulls were lent to farmers in the hill villages of Safad and Nablus districts.

Sheep.

24. Local native, Awasi, breed — The flock has been gradually increased and now consists of 229 breeding ewes, 77 rams, 35 ram-lambs and 31 ewe-lambs.

43 of the ewes and 45 of the rams were bred and reared on the Farm.

25. The system of dividing the ewes into small flocks headed by selected rams is already bearing fruit. Ram lambs born of these matings show superior development and size to those of previous years ; also ewe-lambs have improved.

26. More extensive culling to raise the general level of the flock will be practised, commencing this season.

27. The weaning of lambs at 3 months of age is attended with good results ; the lambs at such age being in excellent condition and have grown into sturdy yearling rams.

28. Karakuls — The number of Karakuls has increased from 4 rams, 1 ewe and 1 ram-lamb in 1934/35 to 5 rams, 8 ewes, 1 ram-lamb and 3 ewe-lambs. Of these, 2 ewes were purchased from Germany and 5 from France. 3 ewe-lambs, 1 ram and 1 ram-lamb, were bred on the Farm. The imported Karakuls and those bred here have all acclimatised well. No deaths occurred among these sheep during the year.

Karakul x Awasi 1st Cross.

29. There are 47 first cross-bred Karakul x Awasi (native) ewe-lambs. These thrive just as well on similar pasture to that provided for native lambs. 27 first cross-bred male lambs were slaughtered the day following birth and their skins forwarded to the Imperial Institute for examination. The report received on these skins states that they are of definite commercial value ; the top price realised being 900 mils. This result is most satisfactory.

Experimental crossing of Native Sheep.

30. Experiments with Dorset Horn and Awasi (native) ewes and Scotch Blackface x Awasi ewes have not been a success. It has been decided, consequently, to discontinue these experiments and all crosses have been sold.

Goats.

31. Damascus — This herd consists of 46 does, 43 bucks, 19 female kids and 27 male kids. The herd suffered very severely from tick fever — anaplasmosis. All kids had to be separated from their dams and fed from the bottle. Control measures, as prescribed by the Veterinary Officer, Haifa, were followed, but unfortunately several female goats died despite such measures. All other goats are gradually recovering.

32. Preventive treatment against coccidiosis was carried out as usual ; Thymol being used.

33. Mamber (Black Syrian) — There are 114 does, 76 bucks, 36 female kids and 45 male kids at present of this breed. The herd has had an excellent year. Kidding was at the rate of 144 kids per 100 does. Both does and bucks are in splendid condition.

The Mamber goats at Manawat Hill Station are in perfect condition. The typical mountain grazing is proving very suitable indeed for this breed.

Swine.

34. The herd of pigs consists of 2 Large White and 1 Middle White boars, 1 Large White sow, 5 Middle White sows and 50 piglets. One Large White boar and sow were imported from England ; the others were bred on the Farm.

35. The Middle White sows have been crossed by the Large White boar with the object of producing larger piglets. The progeny of this mating is very satisfactory and much appreciated by pig breeders. The demand for young boars continues to increase and was very high during the year. 34 piglets of six weeks of age were sold for LP.1 each to different breeders.

Visitors.

36. The Farm is most popular with the general public and is also visited by all Agricultural experts passing through the country. Every endeavour has been made to explain the work being done.

Farmers' Day.

37. The Annual Farmers' Day was held on the 29th April and was attended by 233 Arab and Jewish farmers.

(Sgd) B. M. CAMERON.
Manager.

21st May, 1936.

ANNEXURE 'C'.

POULTRY AND BEEKEEPING SECTION.
REPORT OF THE SENIOR POULTRY AND BEEKEEPING OFFICER.

Palestine villagers and settlers are showing a keen interest in poultry farming. A good number of modern poultry farms was established during the year under review and practically all existing ones were extended. Large hatcheries were opened ; these are equipped with the most modern mammoth electric incubators and some of them have reached an output of 100,000 chicks per annum. As an illustration of the interest shown in poultry keeping, it may be pointed out that the demand for hatching eggs, day-old chicks and young stock was so great that it was impossible for suppliers to meet all orders.

2. Unfortunately, notwithstanding the keen interest in, and great possibilities for, poultry farming in this country, few poultry farms were run at a substantial profit. This was mainly due to the large imports of cheap eggs and table poultry from adjacent territories and overseas. The local poultry farmer is unprotected by the existing tariffs, live poultry being imported duty-free while eggs are subject to a very low tariff, namely, 20 mils per 100. Further, the low rate of exchange in certain exporting countries and the export premiums paid by certain Governments and the low standard of living among farmers in others, make it profitable for them to export poultry and eggs to Palestine at very low prices. In these circumstances, the local farmer is unable to compete successfully with imports and, as a result, imports of eggs and poultry into Palestine are increasing from year to year. 76 million eggs and approximately 2,000,000 table poultry were imported during the year under review at a total local value of about LP.500,000.—

3. To remedy this undesirable state of affairs, a special Sub-Committee of the General Agricultural Council was appointed to study the situation of the local poultry industry. This Sub-Committee, which included the writer as a member, heard evidence from over 20 witnesses representative of all classes of farmers, made personal investigations, and presented a lengthy and detailed report to the Council, in which the present situation and the possibilities of developing this branch of agriculture in Palestine was fully described, and recommended various measures for its protection. The principal recommendations of the Sub-Committee were endorsed, in the main, by the General Agricultural Council, and submitted by the Department of Agriculture & Fisheries to Government for consideration. It is hoped that Government will approve of their recommendations thereby encouraging and stimulating the local poultry industry which will then be able to develop properly and figure among the important branches of Palestine's agriculture.

4. The Poultry and Beekeeping section of the Veterinary Branch assisted in the development of the local poultry industry by means of (a) its Poultry Stations (b) extension work and (c) subsidiary measures.

POULTRY STATIONS.

Distribution of Stock.

5. Pure-bred hatching eggs, poultry, rabbits and bee swarms, selected from imported and acclimatized pure-bred stock and from improved local stock, are being distributed to farmers.

For this purpose, the following stock was imported :—

	Breed.	From.
FOWLS	White Leghorn	England, Canada, South Africa and Australia.
	Black Leghorn	England.
	Rhode Island Red	England and Canada.
	Light Sussex	England.
	Australorp	England, South Africa and Australia.
	Wyandotte	England and Canada.
	Barred Plymouth Rock	England, Ireland and U.S.A.
	Faiyumi	Egypt.
TURKEYS	Mammoth Bronze	England.
DUCKS	Khaki Campbell	"
	Aylesbury	"
	Pekin	England and Egypt.
	Orpington	Egypt.
RABBITS	Angora	England.
	Chinchilla	"
	Chinrex	"
	Castorrex	"
	Blackrex	"
	Ermine	"
BEES	Italian	Italy.
	Carniolan	Austria.

All this expensive stock was purchased from breeders of world repute, acclimatized at Government Poultry Stations, and their selected progeny sold to farmers at nominal prices. Practically all modern poultry farms in Palestine are, in one way or another, stocked with the progeny of this stock.

6. The distribution of breeding stock from Government Poultry Stations for this year was as follows :—

Hatching eggs	45,416
Day-old chicks	7,542
Pullets and Cockerels	2,558
Turkeys	67
Ducks	13
Rabbits	48
Swarms	523.

7. Apart from acclimatizing imported poultry stock, Government Poultry Stations are engaged in improving local stock. Flocks of the native fowl are kept at Acre Poultry Station where their merits are carefully studied with a view to selecting and breeding from the most desirable types of the local fowl. Such indigenous stock may be more hardy and suitable for the rough methods of handling employed by beginners in poultry farming than the more sensitive, imported, acclimatized, pure-bred stock.

Indigenous flocks at Acre develop very satisfactorily and there are good prospects that next year it will be possible to distribute a good number of noteworthy local stock to farmers.

8. Local bees, too, are selected at the apiary of Acre Poultry Station and good improvement in temper and honey-gathering qualities of these bees has been achieved.

Experiments.

9. Various experiments and studies connected with local problems of poultry and beekeeping are conducted at Government Poultry Stations, particularly at the central station situated at Acre. Some of the problems studied are mentioned below.

(a) Building Materials for Poultry Houses. — To ascertain the most suitable and economic building materials for poultry houses.

Four pens of pullets, as similar as possible in age, breed and grade, are accommodated in four poultry houses of the same pattern but of different building materials, viz : concrete, wood, galvanized metal sheets and Betonada (concrete). Each house is equipped with maximum and minimum thermometers and hygrometer. Temperatures and humidity are taken and registered each morning. All birds are fed and managed in the same manner. Each bird is weighed monthly on the same date each month.

Records are kept of sickness, mortality, broodiness, moult, food consumption, weight of birds, production, weight, shape and shell quality of eggs, fertility, hatchability and rearability of chicks produced.

(b) Types of Poultry Houses — To ascertain the most suitable type of house from the point of view of comfort to birds and facility in attention.

Four pens of pullets, as similar as possible in age, breed and grade, are accommodated in four poultry houses of the same building material but different in pattern, viz : open-front, semi monitor, gable-roof and slatted floor. Each house is equipped with maximum and minimum thermometers and hygrometer. Temperatures and humidity are taken and registered each morning. Birds are fed and managed in the same manner. The same records as under (a) are kept.

(c) Types of Poultry Yards. — To ascertain the type of poultry yard most suitable to prevailing weather conditions.

Five pens of pullets, as similar as possible in age, breed and grade, are accommodated in five similar houses differing only in yarding, viz : concrete yard, wire-netting yard, yardless, and 2 control pens with double yards. Birds are fed and managed in the same manner. The same records as under (a) are kept.

(d) Poultry Utensils. — To ascertain the most economic and suitable types of poultry utensils.

All types of mash hoppers, water-fountains and trap-nest fronts are examined once weekly and observations recorded.

Records are kept of the different types of hoppers and fountains, wastage, facility in refilling and cleaning. Records are also kept in respect of nest-fronts used, re comfort and facility in removing birds.

(e) Poultry Feeding — To determine the most suitable and economic ration for maximum production of eggs.

20 pens of pullets, as similar in age, breed, pedigree and grade as possible, are accommodated and managed in the same manner but fed on 20 different rations. Records are kept as for (a) above.

(f) Time of Incubation — To determine the most suitable time of incubation, from an economic point of view, for different breeds of poultry.

Incubation is commenced and continued at weekly intervals from November to April inclusive. Each hatch is as uniform as possible in quality and quantity of eggs set. Chicks are weighed weekly on the same day each week.

Records are kept of the fertility, hatchability, rearability, mortality, chick weights, food and fuel consumed, value of eggs when incubated, precocity, production, size and value of eggs layed during the last 6 months of the first year.

(g) Method of Rearing — To determine the most suitable method of rearing chicks during the first 2 months.

Chicks of the same hatch are divided equally into 2 groups ; one reared in battery brooders up to 3-4 weeks of age and then under hovers up to 8 weeks, the other reared entirely under hovers.

Chicks of the same hatch are divided and reared in 2 equal groups under hovers ; one on littered concrete floors and the other on wire-netting floors.

Chicks of same hatch are divided and reared under hovers in 2 equal groups ; one on littered concrete floors with wire netting perches, the other on a similar type of floor with open range run.

All chicks are weighed weekly on the same day each week. Records are kept of the rearability, mortality, food and fuel consumption, average time of attention, weekly chick weights, precocity, production, weight and value of eggs for the last 6 months of the first year.

(h) Poultry and Rabbit Breeds — To ascertain the most profitable breed of poultry best suited to methods of poultry farming in Palestine ; also best rabbit breed.

Seven breeds of pure-bred poultry (White Leghorn, Rhode Island Red, Black Leghorn, Light Sussex, Barred Plymouth Rock, Wyandotte and Australorp), 1 improved breed of local fowl, 2 breeds of ducks (Khaki Campbell and Aylesbury), 1 breed of turkeys (American Mammoth Bronze) and 6 breeds of rabbits (Angora, Chinchilla, Chinrex, Castorrex, Blackrex and Ermine) are divided into equal and similar groups and are kept under the various methods of farming, viz: intensive (battery cages), semi-intensive (in houses with yards) and extensive (houses with free range). Records similar to those in connection with experiment (a) are kept.

(j) Combination of Orange Growing and Poultry Farming — To ascertain the most suitable breed of poultry and method of poultry farming in orange groves ; also the influence of poultry farming upon the grove and vice versa.

Various breeds of poultry are housed differently in slatted-floor houses, folding units and common stationary poultry houses, which are located in an orange grove ; check plots without poultry are also provided in the same grove.

Records are kept as for experiments (a) and (b) and observations recorded on eradication of weeds and certain insect pests by poultry, and the influence of green food and shade upon poultry.

(k) Bee Feeding — To ascertain the most suitable and profitable method of feeding.

60 hives were divided into 3 groups of equal strength and headed by

queens of the same age and breed. All colonies commenced and completed feeding at the same time. Each group was fed from the same sugar solution ; one was entrance-fed, the second top-fed and the third bottom-fed. Condition of colonies is noted before commencing. This experiment is being conducted at Acre and Sarafand apiaries :

Records are kept of the condition of colonies at the beginning and end of experiment, sugar consumed in each hive, frames of comb foundation to each hive and, brood frames removed from each, average time to feed each group and for each to consume the sugar in clear and rainy weather, temper of bees and degree of robbing in each group.

(l) Types of Hives — To determine the type of hive best suited to prevailing weather conditions.

50 colonies were divided into 5 groups of equal strength, each group in a different type of hive (Buckeys double-walled, single-walled, single-walled with 2 Celotex diaphragms in each, single-walled with Celotex inner cover, single-walled with diaphragms and cover). All colonies are fed and managed in the same manner. Hive entrances are exactly the same in size. Records are kept as for experiment (k).

(m) Biological Development of Colonies in various types of hives and at the different Government apiaries — To determine the type of hive in which bees are most comfortable and develop most favourably in various parts of the country.

Three colonies, housed differently (in double-walled hive, single-walled hive, and mud-tube) were placed on scales at each of the following apiaries:— Acre, Jerusalem, Majdal, Hebron, Safad, Gaza, Beersheba, Beisan, Nablus, Jenin, Ramallah and Sarafand. Colonies are not fed. Temperatures and weights of hives are taken daily.

Temperatures of nest and hives are taken 3 times daily (morning, noon and evening) and weights registered.

(n) Bee Races — To ascertain the most profitable race of bees best suited to local methods of bee-keeping.

Ten colonies of each of the 3 races of bees (Local, Carniolan and Italian) are kept at Acre apiary under identical conditions.

Records are kept of the conditions of colonies at the beginning and end of experiment, weekly development of colonies, temper of bees, frames removed, quantity of honey obtained, and number of artificial swarms obtained from each hive.

Demonstrations.

10. Government Poultry Stations serve to demonstrate to all farmers interested in improving their methods of poultry farming, the most modern methods of incubation, feeding, housing and management. In addition, most modern and approved poultry and bee equipment are tested and then demonstrated. Palestinian farmers take great interest in such demonstrations and freely adopt those methods which prove, by practical experimentation at Government stations, to be successful.

Acre Poultry Station.

11. The main activities are performed at this central station which is pleasantly situated and adequately equipped, occupying about 150 dunams of land adjoining the Government Stock Farm and Agricultural Station.

Accommodation at this station has been extended this year and the following, much required buildings have now been erected: (a) 8-room brooder house built on most modern lines with central heating, (b) implement shed, and (c) food store and food mixing room — a concrete 2-storey building of 7m. x8m. floor space each, in which milling, crushing and mixing machinery will be installed.

The working staff of this station has been augmented by the employment of two additional Poultry and Bee Men. This, of course, has released considerably the pressure of work of the personnel but the station is not as yet fully established in staff.

The poultry and apiary stock were not increased considerably during the period under review but they do show great imporvement from year to year, as methods of selection employed become more and more strict. The establishment of poultry, rabbits and bees at Acre Station is shown in Appendix No. 24.

Small flocks of Leghorn and Australorps were imported in the autumn from South Africa and Australia, and some cocks were imported from England. It is as yet premature to pass comment on the introduced fresh blood, since such information can be known only when the progeny is tested. It should be noted, however, that the improvement of stock by crossing with imported pure-breds is not as simple as it might appear. In many instances, imported stock degrades existing stock rather than improves it. New faults are often introduced which are difficult to discard. Imported stock must, therefore, be very carefully tested before admitting it to the breeding pens, more especially is this so since information concerning the prepotency of imported stock is unknown. In the best cases, pedigree records throw light on the perfomance of the bird's ancestry, but there is nothing concerning its progeny ; and it is seldom that sister and brother records are given.

District Poultry Stations.

12. The 9 existing District Poultry Stations and Apiaries are located at Jerusalem, Hebron, Beersheba, Gaza, Majdal, Nablus, Farradiya, Safad, and Beisan, and these were extended during the year. At present they comprise accommodation sufficient for 200 laying hens, 2 brooder houses, a 600-egg incubator and 10 bee-hives.

Two new poultry stations were established this year ; one at Sarafand and the second at Jenin. Each of these is the same in size as the aforementioned stations. At Sarafand, it is intended not only to distribute breeding stock to neighbouring farmers and to hold demonstrations, but also to conduct experiments on the combination of citrus growing and poultry farming.

It is planned that each of the District Poultry Stations will produce and distribute 5,000 hatching eggs, 1,000 day and 6 week-old chicks, 500 pullets and cockerels and 200 swarms annually.

Extension Work.

13. Four Poultry and Bee Instructors are permanently engaged in advising and assisting, technically, poultry farmers in solving problems of hygiene, housing, feeding, rearing, management, etc.. This assistance is much sought after by poultry farmers and, in order to satisfy all demands for assistance, the number of Poultry and Bee Instructors will have to be increased.

A three-months' course of practical instruction in poultry and beekeeping was held four times during the year. The courses were attended by 30 students. Some 50 applicants had to be refused owing to shortage of teaching staff. Practically all the students are now engaged in poultry farming, the majority on their own private farms, 7 as employees on private farms and 1 as Poultry Instructor with the Jewish Agency.

Subsidiary Measures.

14. Among other subsidiary measures taken by Governmet to assist the poultry industry, the following should be mentioned :

(1) Stamping of Eggs.

Regulations have been enforced to the effect that all imported eggs must bear a stamp showing the country of origin. Experience has shown that this regulation is of considerable assistance to poultry farmers since many imported eggs were formerly marketed as local eggs, thereby deceiving the local consumer and discrediting greatly the value of fresh local eggs.

(2) Premiums for Poultry Breeding Farms.

Government Poultry Stations, which strive for quality rather than quantity, can supply but a small percentage of the hatching eggs required in the country. In order to encourage the establishment of private poultry breeding farms, Government has adopted a scheme by which selected poultry farms which agree to (a) Government inspection, (b) adopt approved methods of housing, feeding, and management, and (c) sell hatching eggs at nominal prices, receive a premium of 50 mils per hen per annum. 12 farms with a total of 3,000 hens have been selected under this scheme this year. It is expected that this scheme will assist considerably the improvement of poultry stock in Palestine.

(3) Upgrading of the Village Fowls.

2,100 pure-bred cockerels of the Rhode Island Red, Sussex and Australorp breeds were exchanged for native cocks in the villages, head for head. By this exchange it is intended to grade up local stock in order to improve its meat quality and egg production. The one condition imposed on villagers in connection with this experiment was that the village, as a unit, must exchange all its cockerels and no native cocks should be permitted to run in the village. Some improvement as to hygiene and nutrition of the fowls was also undertaken by villagers. In villages where fellaheen took adequate care of their poultry, excellent first crosses were produced and the progeny is of a good size, possess good meat qualities and the production is much ahead of that of the local fowl.

However, in villages where little care, if any, was shown with regard to poultry, most cockerels died before effecting any improvement in native stock. All this clearly indicates that improvement in local management of poultry must come prior to improving village stock and that no headway can be made with regard to the latter unless the former shows definite signs of improvement.

BEEKEEPING.

15. The development of beekeeping in this country is progressing very rapidly. Thousands of new bee-hives are being populated annually and, although we are still far from reaching the saturation point with respect to the maximum number of hives which can be accommodated, it may be expected that if development continues at the pace it has set during the past few years,

beekeeping will become, in the near future, one of the most important subsidiary branches of agriculture.

At the present time, more than 100 families derive their entire income from this branch, and a good many more are greatly assisted by it.

The rapid development of beekeeping during the last few years in the various districts is reflected by the figures given in appendix No. 25.

16. Government encourages and stimulates the development of bee-keeping by means of the following activities :—

(1) Grant of Loans.

LP.500 have been distributed as loans among beginners in beekeeping, especially among those in possession of bees in native mud-hives and who intend to transfer them to modern moveable-frame hives. Such loans are made in kind, viz: hives, comb foundation and equipment, and are repayable in three equal annual instalments. 110 beginners in beekeeping availed themselves of these loans last year.

(2) Distribution of Duty-free Sugar for Bee-feeding.

193 tons of duty-free sugar were distributed to 591 bee-keepers to help them to feed their bees over the winter months owing to a partial failure of the honey crop in hilly areas resulting from a hot spell which occurred in May, 1935.

(3) Inspection for Foul Brood Bee Diseases.

Temporary Bee Inspectors are employed by Government to inspect hives with a view to eradicate Foul Brood diseases. The results of these inspections proved very satisfactory since these diseases were stamped out entirely in some localities. 95 colonies infected with American Foul Brood were detected and destroyed. It is believed that if these inspections are continued for several years the entire country will be rendered free from this pestilence.

(4) Hornet Control.

Government is doing much to control this pest. Bee Instructors and Veterinary personnel advise beekeepers and horticulturists as to methods of control. About 100 kilogrammes of Cyanogas powder were distributed to farmers for the destruction of hornet nests and thousands of such nests were thus destroyed.

(5) Instruction.

Four Poultry and Bee Instructors employed by Government are instructing and advising beginners in beekeeping.

(6) Short Courses of Instruction.

Two fortnightly practical and theoretical courses in beekeeping were held, one for Arab speaking students and the second for Hebrew speaking students. 55 beginners attended these courses, most of whom have already established apiaries.

Honey Crop.

17. This year's honey crop fell below normal due to the occurrence of a protracted hot spell of weather in May, 1935, which seriously affected wild flowers of the hilly and mountainous regions. On the other hand, the honey crop in orange blossom areas, which was extracted before the occurrence of this hot spell, was above normal.

The total honey crop is estimated to be 150 tons and it was all sold locally, there being no surplus available for export.

The darker types of honey are used in the manufacture of a kind of mead called "zoof" a very popular beverage on the local market. For the production of "zoof" some 100 tons of dark honey is used annually. Orange honey is too light in colour and flavour to be used in the manufacture of this product, but is very suitable for export and it is very much in demand on the English and European markets.

Study of Methods of Poultry Farming in Egyptian Villages.

18. The Senior Poultry and Beekeeping Officer paid a fortnight's visit to Egypt in March, 1936, to study methods of poultry farming practised in Egyptian villages in order to introduce them in Arab villages of Palestine, if found suitable for adoption. In general, Egyptian methods of poultry farming are much similar to those adopted by the Palestinian fallah, but the difference lies in the fact that they give more careful attention to feeding and rearing of chickens. Modern methods of poultry farming are practically unknown in the Egyptian villages.

Attention was paid to two striking points. Firstly, the local Egyptian breed, Faiyumi, for which good production, hardiness, and excellent powers to forage are claimed. The main drawbacks are the small egg produced, which is 30-40 grammes in weight, and poor meat qualities. Arrangements were made, however, to establish a small flock of this breed at Acre Poultry Station for experimentation, when the merits of this breed will be studied and, if found worthy, the progeny will be distributed among local villagers.

The second point was the Egyptian oven-incubator. The Egyptian incubator, which has been in use for three thousand years, had already been observed and fully described by the famous French Physician and Naturalist, Reamour, in his treatise on the 'Art of Hatching and Bringing up Domestic Fowls' published in 1760. Unfortunately, no attention was directed to it by modern incubator manufacturers or hatchery men. I earnestly advise all modern hatchery men and incubator manufacturers to observe this incubator closely and the method of hatching adopted. It differs very greatly from modern methods as to temperature, moisture and ventilation ; the hatches produced are much higher than the best results obtained with up-to-date equipment. It is intended to continue the study of the Egyptian incubator more closely, and it is expected that facts would be revealed which may prove to be of considerable value to modern poultry farmers.

ALEX LIVSHITZ.
Senior Poultry and Beekeeping Officer.

15th August, 1936.

ANNEXURE 'D'.

SHEEP BREEDING EXPERIMENTS AT THE GOVERNMENT STOCK FARM AND AGRICUTURAL STATION OF PALESTINE.

SCOTCH BLACKFACE SHEEP.

In 1933 two rams and six ewes of the Scotch Blackface breed of sheep were acquired with the object of determining whether an early maturing and better quality mutton sheep could be produced by crossing local ewes of Awasi breed with Scotch Blackface rams.

In 1933, nine local ewes and in 1934 eight local ewes were crossed with the rams and the resulting half-breds, of which 6 only survived, were raised under local conditions of sheep husbandry.

2. It was found that

(a) this breed of sheep and its crosses cannot be acclimatised. During the hottest weather of the year they could not keep up with the local sheep, while out on pasture they were observed to be frequently gasping and lying down to rest. To counteract the effects of the heat, they were shorn and also immersed in cold water but to no avail ;

(b) the pastures were also found to be too poor to maintain the breed. In this country green grazing is only available for from three to four months in the year ; during the remaining months sheep graze on stubble fields and dry grasses ;

(c) the cross bred lambs developed quite satisfactorily up to the time of weaning but thereafter they lost condition rapidly, remained stunted and were very susceptible to pleuro-pneumonia, strongylosis and coccidiosis (internal parasitic diseases) ;

(d) the pure Awasi lamb was heavier and stronger at birth than the Scotch Blackface x Awasi cross bred lamb and thereafter made continuous good progress ;

(e) to keep the pure Scotch Blackface sheep alive it was necessary to stable them continuously except during the winter months and to feed them with green lucerne and concentrates. Despite these conditions some of them died.

DORSET HORN AND CHEVIOT x DORSET.

3. In November 1934 two Dorset horn rams and two Cheviot x Dorset rams were presented to Government for experimental crossing with local Awasi ewes with the same object in view as that set out above in respect of Scotch Blackface sheep.

4. Of the two Dorset rams one died on the 23rd June before the tupping season and the other on the 30th December, 1935, from pleuro-pneumonia and two cross-bred lambs only survived.

5. It was found that :—

(a) The remaining Dorset horn ram and the Cheviot x Dorset rams were greatly affected during the summer by the heat and that to keep them alive they had to be stabled continuously and fed on a special diet ;

(b) unlike the Scotch Blackface rams which had had experience in tupping long-tailed sheep, these rams were unable to tup the Awasi ewes without an attendant holding the fat tail aside and even then service was difficult and unsatisfactory ;

(c) the close, short, dense, woolly, fleece of these rams retained the heat of mid summer, making grazing during the day time quite impossible. To graze sheep at night in this country is absolutely impracticable ;

(d) they are very susceptible to local diseases such as Strongylosis and Coccidiosis.

CONCLUSIONS.

The conclusion to be drawn from the foregoing experiments is that this country is unsuitable for sheep of a non-fat-tail variety. Such varieties of sheep, which have been evolved and bred in a country where regular rainfall produces green grasses in greater or lesser quantities all the year round, are unable to withstand the climatic conditions and survive on dry grazing for the greater part of the year in this country.

Furthermore, such sheep and their progeny have no fat-tails to sustain them during periods of drought and are very susceptible to local diseases.

APPENDIX No. 1.

INCIDENCE OF ANTHRAX.

Veterinary District	Outbreaks	Animals Involved	Deaths	Animals Vaccinated
TOTAL	72	17,935	770	17,165
Jerusalem	23	7,226	223	7,003
Jaffa	13	2,079	260	1,819
Nablus	9	1,918	101	1,817
Haifa	6	1,605	84	1,521
Tiberias	21	5,107	102	5,005
Safad	—	—	—	—

SUMMARY FOR 5 YEARS.

1931	60	6,297	181	8,025
1932	72	24,066	391	25,973
1933/34	106	34,626	1,075	35,632
1934/35	71	15,304	538	14,766
1935/36	72	17,935	770	17,165

APPENDIX No. 2.

INCIDENCE OF MANGE.

Veterinary District	Number of Examinations made				Animals found diseased				Stables disinfected
	Horses	Mules	Donkeys	Camels	Horses	Mules	Donkeys	Camels	
TOTAL	12,045	8,601	44,249	19,045	34	4	5	159	138
Jerusalem	932	857	5,224	3,353	10	4	2	29	37
Jaffa	1,373	1,497	6,614	6,882	1	—	1	15	17
Nablus	6,821	5,444	26,393	7,309	1	—	—	98	43
Haifa	—	—	—	—	—	—	—	—	—
Tiberias	2,548	684	5,496	1,381	—	—	—	17	17
Safad	371	119	522	120	22	—	2	—	24

SUMMARY FOR 5 YEARS.

1931	13,596	7,569	32,706	20,964	13	7	35	280	221
1932	14,338	8,746	33,524	20,090	19	—	30	92	96
1933/34	14,390	8,373	43,369	25,477	29	4	15	392	217
1934/35	16,296	12,451	39,024	18,846	52	3	4	249	231
1935/36	12,045	8,601	44,249	19,045	34	4	5	159	138

APPENDIX No. 3.

INCIDENCE OF RABIES.

Veterinary District	Dogs	Cats	Other Animals	Total
TOTAL	67	9	21	97
Jerusalem	4	1	—	5
Jaffa	31	7	9	47
Nablus	11	—	7	18
Haifa	3	1	5	9
Tiberias	7	—	—	7
Safad	11	—	—	11

SUMMARY FOR 5 YEARS

1931	67	13	16	96
1932	125	16	24	165
1933/34	91	16	11	118
1934/35	100	22	20	142
1935/36	67	9	21	97

APPENDIX No. 4.

CONTROL OF RABIES.

DESTRUCTION OF DOGS, CATS AND JACKALS.

Sub-District	Municipal and Local Council Areas		Rural Areas			Total
	Dogs	Cats	Dogs	Cats	Jackals	
TOTAL	5,006	1,164	8,592	73	1,591	16,426
Jerusalem-Bethlehem-Jericho	1,352	79	818	59	162	2,570
Ramallah	144	4	525	3	108	784
Hebron	59	—	1,203	—	15	1,277
Jaffa	1,526	845	87	—	567	3,025
Ramle	253	—	827	11	50	1,141
Gaza	371	27	563	—	30	991
Beersheba	179	—	2	—	—	181
Nablus	76	25	246	—	75	422
Tulkarm	47	—	485	—	240	772
Jenin	77	6	308	—	45	436
Haifa	379	38	379	—	—	796
Acre	—	—	341	—	—	341
Nazareth	244	28	446	—	—	718
Beisan	81	4	1,027	—	—	1,112
Tiberias	96	61	518	—	—	675
Safad	122	47	717	—	299	1,185

SUMMARY FOR 5 YEARS.

Year	No. of Animals
1931	21,466
1932	29,433
1933/34	10,640
1934/35	21,342
1935/36	16,426

NUMBER AND KIND OF ANIMALS PASSED THROUGH ANIMAL QUARANTINE STATIONS.

Animal Quarantine Station	Horses	Mules	Donkeys	Camels	Cattle		Sheep	Goats	Pigs	Total	Poultry	Quarantine Receipts LP.
					Male	Female						
TOTAL	1,332	1,092	996	17,264	33,040	9,148	317,118	139,413	421	519,824	1,985,930	25,951
Haifa	158	392	496	—	23,062	4,202	171,411	77,913	269	277,903	1,269,012	17,598
Ras en Naqura	—	7	1	—	—	–	408	—	—	416	119,863	352
Manawat	44	70	18	—	359	—	4,548	2,679	22	7,740	131	176
Jish	51	51	201	56	830	933	1,861	10,340	67	14,390	30,904	450
Buweiziya	246	126	134	21	2,382	2,279	11,327	16,340	—	32,855	11,748	802
Jisr Banat Ya'qub	399	125	6	102	146	126	3,045	951	—	4,900	214,735	731
Samakh	332	284	39	6,814	4,819	1,057	72,837	15,894	—	102,076	16,784	2,377
Jisr Majami'	2	–	3	105	306	205	9,889	553	—	11,063	537	270
Jisr Sheikh Husein	31	15	3	170	216	115	9,575	1,610	–	11,735	1,880	330
Jisr Damiya	6	—	—	8,967	47	28	916	44	—	10,008	64	393
Allenby Bridge	53	4	12	225	828	185	22,478	8,180	63	32,028	197,721	1,250
Hebron	—	—	—	4	45	18	1,682	1,446	—	3,195	80	70
Beersheba	—	—	—	323	—	—	6,501	3,249	—	10,073	—	207
Gaza	8	—	—	27	—	—	215	—	—	250	—	10
Khan Yunis	1	—	83	44	—	—	113	214	—	455	—	21
* Interior Control Posts	1	18	—	406	—	—	312	—	—	737	122,471	914

SUMMARY FOR 5 YEARS.

1931	782	475	407	9,413	7,993	1,603	180,018	59,995	37	260,683	140,416	7,742
1932	702	876	661	7,155	8,255	2,952	130,753	69,299	61	220,714	279,971	6,433
1933 34	1,020	1,580	1,244	19,287	16,082	6,194	165,814	93,317	—	304,538	423,058	9,945
1934/35	1,298	1,396	965	26,138	22,121	5,447	215,519	117,596	308	390,788	1,031,948	15,786
1935 36	1,332	1,092	996	17,264	33,040	9,148	317,118	139,413	421	519,824	1,985,930	25,951

* Jerusalem, Jaffa, Nablus and Tulkarm.

APPENDIX No. 6.

CATTLE, SHEEP, GOATS AND POULTRY (BY COUNTRIES) IMPORTED BY SEA.

Country	Cattle	Sheep	Goats	Poultry
TOTAL	27,264	171,411	77,913	1,391,483
Austria	46	—	—	—
Bulgaria	3,726	96	—	74,113
Cyprus	194	—	—	675
Germany	497	—	—	—
Great Britain	2	—	—	88
Holland	486	—	8	—
Lithuania	373	—	—	—
Poland	1,656	—	—	182,071
Roumania	18,881	20	—	1,133,261
Switzerland	276	—	—	—
Syria	403	35,021	1,488	1,275
Turkey	65	136,274	76,417	—
Yugoslavia	659	—	—	—

SUMMARY FOF 5 YEARS.

1931	6,870	10,768	1,589	1,580
1932	6,148	40,284	25,041	2,398
1933/34	10,206	94,986	63,671	1,542
1934/35	18,505	137,522	82,906	52,273
1935/36	27,264	171,411	77,913	1,391,483

APPENDIX No. 7.

NUMBER AND KIND OF *TRANSPORT ANIMALS PASSED THROUGH ANIMAL QUARANTINE STATIONS.

Animal Quarantine Station	Horses	Mules	Donkeys	Camels	Total
TOTAL	1,786	1,105	8,608	3,262	14,761
Ras en Naqura	3	2	15	9	29
Manawat	13	10	55	11	89
Jish	242	303	1,125	83	1,753
Buweiziya	64	250	457	45	816
Jisr Banat Ya'qub	71	129	147	82	429
Samakh	77	63	791	293	1,224
Jisr Majami'	224	74	850	781	1,929
Jisr Sheikh Husein	702	96	2,710	495	4,003
Jisr Damiya	98	9	308	194	609
Allenby Bridge	287	126	1,998	556	2,967
Hebron	1	40	103	22	166
Beersheba	—	—	—	43	43
Gaza	—	—	—	223	223
Khan Yunis	—	—	49	420	469
** Interior Control Posts	4	3	—	5	12

SUMMARY FOR 5 YEARS.

1931	1,648	950	10,631	6,116	19,345
1932	1,820	914	10,975	8,979	22,688
1933/34	2,024	1,193	9,583	5,579	18,379
1934/35	2,462	1,329	9,063	4,913	17,767
1935/36	1,786	1,105	8,608	3,262	14,761

* "Transport animal" means any riding, pack or draught horse, mule, donkey or camel engaged in transport across any frontier.

** Jerusalem, Jaffa Nablus and Tulkarm.

EXPORT AND IMPORT OF HIDES AND SKINS.

Year		Cattle No.	Sheep No.	Goats No.	Camels No.	Buffaloes No.	Total No.
1931	Export	33,838	142.446	77,861	1,141	139	255,425
	Import	4,584	2,067		—	6,912	13,563
1932	Export	57,094	46,785	44,245	1,515	138	149,777
	Import	4,788	2,006	3,700	333	12,521	23,348
1933/34	Export	45,338	124,788	144,024	1,881	384	316,412
	Import	5,269	13,136	2,351	212	11,338	32,306
1934/35	Export	30,977	122,457	121,758	1,041	43	306,276
	Import	1,537	2,143	4	—	40	3,724
1935/36	Export	978,311	424,562	190,387	30,985	4,316	1,628,561
	Import	146,168	8,604	985	60	115,365	271,182

STOCK SLAUGHTERED IN SLAUGHTER HOUSES.

Slaughter House	Cattle	Sheep	Goats	Camels	Pigs	Total
JERUSALEM DISTRICT	12 371	57.798	44,947	134	130	115,380
Jerusalem	11.995	35,680	23,905	47	102	71,729
Hebron	6	8,335	9,685	55	—	18,081
Ramallah	19	3,994	1,249	—	1	5,263
Bethlehem	97	4,786	4,707	31	22	9,643
Beit Jala	225	1,819	1,998	—	5	4,047
Beit Sahur	4	553	1,099	—	—	1,656
Jericho	2	1,494	1,536	1	—	3,033
Bira	23	1,137	768	—	—	1,928
SOUTHERN DISTRICT	30,179	81,997	19,353	705	140	132,374
Jaffa	448	48,761	7,939	244	133	57,525
Tel Aviv	21,759	1,089	114	—	—	22,962
Lydda	13	5,212	1,569	22	—	6,816
Ramle	21	6,761	4,811	—	7	11,600
Petah Tiqva	1,808	9	—	—	—	1,817
Rehovot	1,884	—	—	—	—	1,884
Rishon le Tsiyon	1,324	—	—	—	—	1,324
Ramat Gan	1,706	3	—	—	—	1,709
Hertsliya	869	21	1	—	—	891
Gaza	157	11,244	3,169	85	—	14,655
Majdal	19	4,075	435	153	—	4,682
Beersheba	4	2,251	688	7	—	2,950
Khan Yunis	137	1,450	344	81	—	2,012
Faluja	30	1,121	283	113	—	1,547

Slaughter House	Cattle	Sheep	Goats	Camels	Pigs	Total
NORTHERN DISTRICT	9,373	82,751	25,478	7	451	118,060
Haifa	6,321	32,269	10,390	—	412	49,392
Acre	283	6,929	768	—	2	7,982
Hadera	565	—	1	—	—	566
Zikhron Ya'qov	271	6	9	—	—	286
Tarshiha	—	20	772	—	—	792
Bassa	2	110	510	—	—	622
Rama	—	39	389	—	—	428
Kufr Yassif	—	116	259	—	—	375
Shafa Amr	5	873	45	—	6	929
Nablus	2	14,068	3,086	—	—	17,156
Tulkarm	—	5,959	692	6	—	6,657
Jenin	—	2,292	—	—	—	2,292
Qalqilya	2	1,854	252	—	—	2,108
Tiberias	663	2,934	2,701	—	—	6,298
Nazareth	83	6,534	639	—	31	7,287
Beisan	—	2,484	591	—	—	3,075
Samakh	318	983	1,059	—	—	2,360
Affula	328	—	—	—	—	328
Mujeidal	2	145	31	1	—	179
Saffuriya	4	551	194	—	—	749
Safad	524	4,585	3,090	—	—	8,199

SUMMARY.

	Cattle	Sheep	Goats	Camels	Pigs	Total
Jerusalem District	12,371	57,798	44,947	134	130	115,380
Southern District	30,179	81,997	19,353	705	140	132,374
Northern District	9,373	82,751	25,478	7	451	118,060
GRAND TOTAL	51,923	222,546	89,778	846	721	365,814

STOCK SLAUGHTERED IN SLAUGHTER HOUSES.
SUMMARY FOR 5 YEARS.

Appendix No. 10.

Year	Cattle	Sheep	Goats	Camels	Pigs	Total
1931	23,419	187,728	60,734	410	516	272,807
1932	41,132	146,274	87,987	646	784	276,823
1933/34	54,207	157,540	93,748	882	749	307,126
1934/35	55,165	193,066	102,573	945	663	352,412
1935/36	51,923	222,546	89,778	846	721	365,814

RECORD OF CONDEMNATIONS AT THE SLAUGHTER-HOUSES OF JERUSALEM, HAIFA, JAFFA AND TEL AVIV.

Appendix No. 11.

	Carcases			Quarters			Lungs, Livers & other Organs			Approximate Weight in Kilos		
	Cattle	Sheep	Goats	Cattle	Sheep	Goats	Cattle	Sheep	Goats	Cattle	Sheep	Goats
Jerusalem	58	10	5	38	—	—	5,313	4,231	1,713	22,570	2,439	958
Haifa	51	34	10	59	—	—	1,099	7,727	620	10,684	8,482	2,820
Jaffa	1	—	1	1	81	136	382	11,642	3,527	923	6,755	2,579
Tel Aviv	181	1	—	3	—	—	4,278	271	32	24,826	57	32
Total 1935/36	291	45	16	101	81	136	11,072	23,871	5,892	59,003	17,733	6,389
Total 1934/35	341	32	6	79	71	304	12,444	27,844	10,765	49,878	19,558	8,560
Total 1933/34	359	36	15	59	55	128	9,910	22,023	7,817	46,192	16,869	6,557

RECORD OF DISPOSAL OF POLICE HORSES.

Police District	No. of Horses	Deaths		Destructions		Sales		Total	
		No.	Percentage to District Strength	No.	Percentage to District Strength	No.	Percentage to District Strength	No.	Percentage to District Strength
TOTAL	756	21	2.8	47	6.2	30	4.0	98	13.0
Jerusalem District	120	4	3.3	9	7.5	1	.8	14	11.6
Northern District	112	6	5.4	10	8.9	12	10.7	28	25.0
Southern District	115	1	.8	4	3.4	8	7.0	13	11.2
Nazareth District	147	2	1.4	5	3.4	—	—	7	4.8
Nablus District	118	6	5.0	11	9.3	4	3.4	21	17.7
Gaza-Beersheba	144*	2	1.4	8	5.5	5	3.5	15	10.4

* including 77 camels.

SUMMARY FOR 5 YEARS.

1931	25	4.0	26	4.2	36	5.8	87	14.0
1932	33	5.3	25	4.0	43	6.9	101	16.2
1933/34	24	3.5	29	4.3	23	3.4	76	11.4
1934/35	32	4.9	40	6.2	29	4.5	101	15.6
1935/36	21	2.8	47	6.2	30	4.0	98	13.0

Appendix No. 13.

VETERINARY SERVICE TO POLICE.

	Attendances to police animals	Horses examined prior to purchase	Horses examined for casting	Boards of Enquiry attended.
GRAND TOTAL:	1,849	309	104	192
JERUSALEM DISTRICT:	526	56	18	22
Jerusalem Division	448	49	13	21
Hebron „	78	7	5	1
NORTHERN DISTRICT:	245	39	13	20
Haifa Division	179	39	13	19
Acre „	66	—	—	1
SOUTHERN DISTRICT:	211	41	20	47
Jaffa Division	143	24	13	29
Ramle „	68	17	7	18
NAZARETH DISTRICT:	455	28	13	36
Nazareth Division	68	8	5	7
Tiberias „	216	7	1	18
Safad „	171	13	7	11
NABLUS DISTRICT:	271	70	22	54
Nablus Division	141	31	9	9
Tulkarm „	76	26	7	17
Jenin „	54	13	6	28
GAZA BEERSHEBA DISTRICT	141	75	18	13

SUMMARY FOR 5 YEARS.

1931	1,970	450	103	139
1932	1,839	386	75	143
1933/34	1,715	489	105	146
1934/35	1,650	342	118	173
1935/36	1,849	309	104	192

Appendix No. 15.

ESTIMATED ANNUAL PRODUCTION OF WOOL IN PALESTINE.

Year	Quantity in Kilos
1931	422,552
1932	473,460
1933	441,874
1934	494,371
1935	623,126

Appendix No. 16.

CASTRATION OF VILLAGE STOCK.

Veterinary District	Bulls	Calves	Sheep and Goats	Lambs and Kids	Horses	Donkeys	Others	Total
TOTAL	997	121	107	593	171	870	150	3,009
Jerusalem	560	—	5	79	4	280	53	981
Jaffa	72	20	—	71	9	105	—	277
Nablus	89	30	65	320	10	45	24	583
Haifa	33	—	—	—	11	216	35	295
Tiberias	117	62	13	63	108	221	17	601
Safad	126	9	24	60	29	3	21	272

SUMMARY.

1933/34	513	190	332	214	65	97	46	1,457
1934/35	774	137	108	176	205	628	88	2,116
1935/36	997	121	107	593	171	870	150	3,009

APPENDIX No. 17.

RULES MADE UNDER THE DISEASES OF ANIMALS ORDINANCE, 1926, AND PROMULGATED DURING THE YEAR 1935/36.

	Description of Rules	Palestine Gazette	
		Number	Date
1.	Regarding the importation of cattle for breeding purposes from Roumania.	502	4.4.35
2.	Regarding fees payable in respect of certain classes of imported stock and other amendments to the general provisions of the Animal Quarantine Rules, 1931.	502	4.4.35
3.	Regarding the importation of cattle for slaughter purposes from Poland.	507	2.5.35
4.	Regarding the importation of cattle for breeding purposes from Switzerland.	522	27.6.35
5.	Regarding the importation of sheep and goats from Iraq.	524	11.7.35
6.	Prescribing the sizes of crates to be used for transportation of fowls, floor space per bird, etc.,	525	18.7.35
7.	Regarding the importation of cattle for breeding purposes from Bulgaria.	530	15.8.35
8.	Applying the provisions of the Slaughter-House Rules, 1927, to Ramat Gan Area.	530	15.8.35
9.	Prescribing and regulating the importation of poultry by sea and land routes from any country.	553	28.11.35
10.	Regarding the importation of cattle for breeding purposes from Austria.	553	28.11.35
11.	Providing for the destruction of mares affected with Dourine.	556	12.12.35
12.	Regarding the date of commencement of operation of the Animal Quarantine (Poultry) Rules, 1935 (see 9).	556	12.12.35
13.	Regarding the importation of cattle for breeding purposes from Holland.	556	12.12.35
14.	Regarding the importation of cattle for breeding purposes from Latvia.	556	12.12.35
15.	Regarding the movement of meat between the Municipal Council areas of Bethlehem and Beit Jala.	562	16.1.36
16.	Regarding the removal of imported slaughter stock from Haifa to Rehovot.	572	20.2.36
17.	Regarding the testing of all cattle imported for breeding purposes for Tuberculosis and Bovine Contagious Abortion.	573	27.2.36
18.	Regarding the importation of cattle from the Irish Free State.	574	5.3.36
19.	Regarding the importation of cattle for breeding purposes from Poland and Yugoslavia	575	12.3.36
20.	Prohibiting the slaughter of food animals in localities situated adjacent to Jerusalem town.	577	19.3.36

DIAGNOSIS.

RESULTS OF EXAMINATION OF SPECIMENS SUBMITTED FOR DIAGNOSIS.

1.4.35 — 31.3.36.

Disease	Cattle	Horses Mules Donkeys	Sheep	Goats	Poultry	Bees	Dogs	Rabbits	Total
Piroplasmoses.									
Acute Theileria annulata	24	—	—	—	—	—	—	—	24
Theileria annulata	116	—	—	—	—	—	—	—	116
Anaplasmosis	24	—	2	17	—	—	—	—	43
Piroplasma bigeminum	31	—	—	—	—	—	—	—	31
Babesia bovis	36	—	—	—	—	—	—	—	36
Bartonella bacilliformis	1	—	—	—	—	—	—	—	1
Nuttalia Equi	—	1	—	—	—	—	—	—	1
Theileria ovis	—	—	1	—	—	—	—	—	1
Babesia ovis	—	—	2	—	—	—	—	—	2
Piroplasma Gibsoni	—	—	—	—	—	—	1	—	1
Anthrax	41	3	120	48	—	—	—	—	212
Blackquarter	1	—	—	—	—	—	—	—	1
Epizootic Lymphangitis	—	7	—	—	—	—	—	—	7
Tuberculosis	2	—	—	—	—	—	—	—	2
Pulpy Kidney Disease	—	—	13	1	—	—	—	—	14
Paratuberculosis (Johnes disease)	3	—	—	—	—	—	—	—	3
Calf Diphtheria	1	—	—	—	—	—	—	—	1
White Scour (Coli Bacillosis)	1	—	—	—	—	—	—	—	1
Sarcoptic mange	—	—	—	1	—	—	—	—	1
Psoroptic mange (Sheep Scab)	—	—	3	—	—	—	—	—	3
Contagious bovine abortion	2	—	—	—	—	—	—	—	2
Filariasis	—	2	—	—	—	—	—	—	2
Coccidiosis	—	—	—	1	—	—	—	—	1
Strongylosis	—	2	2	—	—	—	—	—	4
Ascariasis	—	1	—	—	—	—	—	—	1
Mastitis.									
Streptococcus	81	—	—	—	—	—	—	—	81
Staphylococcus	31	—	—	—	—	—	—	—	31
B. Pyogenes	9	—	—	—	—	—	—	—	9
Tuberculosis	1	—	—	—	—	—	—	—	1
Sporebearing bacilli	10	—	—	—	—	—	—	—	10
Small Gram + bacillus	1	—	—	—	—	—	—	—	1
Poultry Diseases.									
Fowl Typhoid	—	—	—	—	28	—	—	—	28
Fowl Cholera	—	—	—	—	87	—	—	—	87
Spirochaetosis	—	—	—	—	15	—	—	—	15
Cell Inclusion disease	—	—	—	—	18	—	—	—	18
Fowl Pox and Diphtheria	—	—	—	—	31	—	—	—	31
Tuberculosis	—	—	—	—	2	—	—	—	2

(Continued).

Disease	Cattle	Horses Mules Donkeys	Sheep	Goats	Poultry	Bees	Dogs	Rabbits	Total
Avitaminosis	—	—	—	—	22	—	—	—	22
Visceral Gout	—	—	—	—	7	—	—	—	7
Wattle Disease	—	—	—	—	1	—	—	—	1
Coccidiosis	—	—	—	—	60	—	—	—	60
Infectious Leukaemia	—	—	—	—	3	—	—	—	3
Purulent Proventriculitis	—	—	—	—	7	—	—	—	7
Tumours	—	—	—	—	8	—	—	—	8
Ascitis	—	—	—	—	3	—	—	—	3
Septicaemia	—	—	—	—	5	—	—	—	5
Myocarditis	—	—	—	—	1	—	—	—	1
Pericarditis	—	—	—	—	1	—	—	—	1
Abcess of lung	—	—	—	—	5	—	—	—	5
Tracheitis	—	—	—	—	6	—	—	—	6
Cirrhosis of liver	—	—	—	—	3	—	—	—	3
Abcess of liver	—	—	—	—	4	—	—	—	4
Abcess of kidney	—	—	—	—	1	—	—	—	1
Nephritis	—	—	—	—	1	—	—	—	1
Peritonitis	—	—	—	—	5	—	—	—	5
Enteritis	—	—	—	—	7	—	—	—	7
Intussussception	—	—	—	—	1	—	—	—	1
Impaction of intestine	—	—	—	—	1	—	—	—	1
Abcess of proventriculus	—	—	—	—	1	—	—	—	1
Inflammation of oviduct	—	—	—	—	8	—	—	—	8
Impaction of oviduct	—	—	—	—	1	—	—	—	1
Rupture of oviduct	—	—	—	—	4	—	—	—	4
Proplapse of oviduct	—	—	—	—	2	—	—	—	2
Diseased ovaries	—	—	—	—	5	—	—	—	5
Rarefying ostitis		—	—	—	1	—	—	—	1
Tape worms	—	—	—	—	18	—	—	—	18
Round worms	—	—	—	—	13	—	—	—	13
Bee Diseases.									
European Foulbrood	—	—	—	—	—	3	—	—	3
American Foulbrood	—	—	—	—	—	2	—	—	2
Sac Brood	—	—	—	—	—	1	—	—	1
Negative	465	52	53	52	505	3	2	2	1134
TOTAL	881	68	196	120	891	9	3	2	2170

Appendix No. 19.

ACRE STOCK FARM.

ESTABLISHMENT OF ANIMALS ON THE 31ST MARCH, 1936.

Kind	Breed	No.	Total
CATTLE:—			
Bulls	Lebanese	45	
	Boaz	6	
	Kerry	5	
	Guernsey	2	58
Cows	Lebanese	20	
	Boaz	3	
	Kerry	8	
	Lebanese x Local	1	32
Heifer calves	Lebanese	7	
	Boaz	1	
	Kerry	2	10
Bull calves	Lebanese	8	
	Boaz	2	
	Kerry	2	12
Total Cattle			112
HORSES:—			
Stallions	Arab	3	
	Highland	2	5
Mares	Arab	6	6
Foals	Arab	1	1
Total Horses			12
DONKEYS:—			
Jackasses	Damascus	8	
	Cyprian	6	
	Cyp. x Sud,	1	15
Mares	Damascus	3	
	Cyprus	3	
	Cat. x Cyp.	1	7
Jack foals	Damascus	1	
	Cyprian	2	
	Cyp. (Cat. x Cyp.)	1	4
Filly foal	Cyprian	1	1
Total Donkeys			27

Kind	Breed	No.	Total
SHEEP:			
Ewes	Awasi	231	
	Scotch Blackface	4	
	S.B.F. x Awasi	5	
	Karakul	8	
	Karakul x Awasi	13	261
Ewe lambs	Awasi	31	
	Karakul	3	
	Karakul x Awasi	34	68
Ram lambs	Awasi	36	
	Karakul	1	
	Karakul x Awasi	5	
	Dorset Horn x Awasi	2	44
Rams	Awasi	77	
	Karakul	5	
	Dorset Horn	2	
	S.B.F. x Awasi	1	85
Total Sheep			458
GOATS:			
She goats	Damascus	46	
	Mamber	114	160
Male goats	Damascus	43	
	Mamber	76	119
Female kids	Damascus	19	
	Mamber	36	
	Damascus x Mamber	4	59
Male kids	Damascus	27	
	Mamber	45	72
Total Goats			410
SWINE:			
Sows	Middle White	5	
	Large White	1	6
Boars	Middle White	1	
	Large White	2	3
Male piglets	L.W. x M.W.	18	
	Large White	2	20
Female piglets	L.W. x M.W.	22	
	Large White	8	30
Total Swine			59
WORKING ANIMALS:-			
Mules		2	
Horses		3	5
	TOTAL ANIMALS		1,083

APPENDIX No. 20.

ACRE STOCK FARM.

ANIMALS ACQUIRED DURING 1935/36.

Kind	Breed	No.	Total	Country of origin
CATTLE:—			4	
Bulls	Guernsey	2		England
,,	Kerry	1		,,
Cows	Lebanese x Local	1		Palestine
HORSES:—			2	
Mares	Arab	1		,,
Colt Foal	,,	1		,,
SHEEP:—			10	
Rams	Awasi	1		,,
Ewes	Karakul	7		France & Germany
,,	Awasi	2		Palestine
DONKEYS:—			5	
Jackasses	Cyprian	3		Cyprus
Mares	,,	1		,,
Jack Foal	,,	1		Palestine
GOATS:—			23	
Female	Damascus	14		Syria
Male	,,	9		,,
SWINE:—			2	
Boar	Large White	1		England
Sow	Large White	1		,,
MULE:—		1	1	Cyprus

Appendix No. 21.

ACRE STOCK FARM.

ANIMALS BORN ON THE FARM DURING 1935/36.

Kind	Breed	No.	Total
CATTLE:—			
Heifer calves	Lebanese	6	
	Boaz	1	
	Kerry	2	
Bull calves	Lebanese	9	
	Kerry	2	
	Boaz	2	
Total Cattle			22
DONKEYS:—			
Jackfoals	Cyprus	2	
	Damascus	2	
Filly foals	Cyprus	1	
Total Donkeys			5
SHEEP:—			
Ewe lambs	Awasi	32	
	Karakul	3	
	Karakul x Awasi	34	
Ram lambs	Awasi	37	
	Karakul	1	
	Karakul x Awasi	27	
	Dorset Horn x Awasi	2	
Total Sheep			136
GOATS:—			
Female kids	Damascus	19	
	Mamber	36	
	Damascus x Mamber	4	
Male kids	Damascus	27	
	Mamber	45	
Total Goats			131
SWINE:—			
Male piglets	Large White x M. White	36	
	Large White	3	
Female piglets	L.W. x M.W.	40	
	Large White	13	
Total Swine			92

MILK YIELD OF SIX LEBANESE COWS — 3 PERIODS.

Name of Cow	Reg. No.	Date of birth	1st Lactation					2nd Lactation					3rd Lactation					Average of all Lactations Kgs.
			From To	Yield Kgs.	Fat %	Av. p. d. Kgs.	Duration of Lactation	From To	Yield Kgs.	Fat %	Av. p. d. Kgs.	Duration of Lactation	From To	Yield Kgs.	Fat %	Av. p. d. Kgs.	Duration of Lactation	
Betty	S/30	15.8.30	28.12.32 1.11.33	2763	3.—	9	307	29.12.33 1.10.34	3174	3.80	11 1/2	276	15.12.34 23.9.35	2417	3.4	8 1/2	282	2781
Amy	S/29	15.4.31	16.3.33 15.12.35	2466	3.88	8	274	18.2.34 1.2.35	2768	3.68	8	346	6.3.35 18.1.36	3283	4.33	10 1/2	308	2839
Dairy Maid	S/32	10.1.31	3 9.33 1.7.34	2392	4.18	8	299	22.9.34 23.9 35	4150	3.60	11 1/2	365	MILKING					3271
Ivy	S/37	5.7.30	16.7.33 15.6.34	2822	3.90	8 1/2	332	26.7.34 15.7.35	3883	4.—	11	353	MILKING					3352
Emily	S/33	17.4.31	17.12.33 1.10.34	2296	4.—	8	287	10.12.34 23.9.35	2442	4.40	8.70	280	MILKING					2369
Georgina	S/35	15.1.32	25.4.34 15.12.34	1998	4.—	8 1/2	234	3.3.35 28.11.35	2354	3.94	8.70	270	MILKING					2176

MILK YIELD OF KERRY COWS.

Name of Cow	Registration No.	LACTATION					
		Date of birth	From To	Yield in Kgs.	Fat %	Average per day Kgs.	Duration of Lactation Days
Brookwood Katheleen	S/51	5.1.32	21.11 34 12.11.35	3600	3.95	10	356
Buckland Betunia	S/54	21.6.31	12.3.35 13.3.36	4771	4.50	13	367
Bellie of Warren	S/52	10.1.31	19.4.35 27.3.36	2229	3.66	$6^1/_2$	330
Brookwood Catherine	S/55	26.6.31	27.4.35 27.3.36	2847	4.52	$8^1/_2$	334

APPENDIX No. 24.

ACTUAL NUMBER OF POULTRY, BEES AND RABBITS IN POSSESSION OF THE ACRE POULTRY STATION, 31ST MARCH, 1936.

FOWLS.

Breed	Laying Birds			Cocks			Pullets	Cockerels
	Over 1 year	Over 2 years	Over 3 years	Over 1 year	Over 2 years	Over 3 years		
White Leghorn	523	241	96	75	20	—	1,035	613
Black ,,	22	7	1	1	1	—	107	33
White Wyandotte	26	13	—	7	3	—	308	102
Light Sussex	52	6	—	5	4	—	665	201
R. I. R.	55	12	—	3	3	—	823	270
Australorp	26	9	—	5	5	—	520	180
B. Plymouth R.	19	4	2	4	4	—	166	52
Local	32	16	—	6	3	—	323	107
Total	765	308	99	106	43	—	3,947	1,558

TURKEYS.

							Young Turkeys	
							Male	Female
Mammoth Bronze	20	17	—	3	1	—	39	19

DUCKS.

							Ducklings	
							Male	Female
Orpington	3	—	—	1	—	—	—	—
Khaki Campbell	13	5	—	7	—	—	45	15
Aylesbury	6	—	—	2	—	—	—	—
Pekin	5	—	—	1	—	—	—	—
Total	27	5	—	11	—	—	45	15

RABBITS.

Breed	Male		Female		Youngsters	
	Over 1 year	Over 2 years	Over 1 year	Over 2 years	Male	Female
Chinchilla	1	—	3	—	—	—
Chinrex	1	—	3	—	—	—
Castorrex	1	—	1	—	—	—
Blackrex	2	—	3	—	10	37
Erminerex	2	—	2	—	—	—
Angora	4	—	6	—	—	—
Chinchilla Giant	2	—	4	—	—	—
Total	13	—	22	—	10	37

BEES — 220 Hives.

Appendix No. 25.

NUMBER OF MODERN BEEKEEPERS AND BEEHIVES IN PALESTINE.

Sub-District	Number of Villages				Number of Beekeepers				Number of Hives			
	1932	1933	1934	1935	1932	1933	1934	1935	1932	1933	1934	1935
Jerusalem	1	8	14	20	1	11	23	37	98	193	232	400
Ramallah	—	5	7	15	—	6	8	18	—	38	51	125
Bethlehem	—	2	1	2	—	2	1	2	—	3	3	4
Jericho	—	—	—	2	—	—	—	2	—	—	—	41
Hebron	—	2	2	2	—	6	9	14	—	36	59	185
Jaffa	15	15	23	25	66	68	111	125	2281	3298	5887	7473
Ramle	10	9	13	16	47	44	49	114	1375	1360	2778	3653
Gaza	1	2	4	25	1	2	7	48	68	76	29	255
Haifa	7	9	12	24	44	55	72	88	1444	2006	3383	4362
Acre	1	1	1	3	1	1	2	3	160	160	140	72
Nazareth	9	8	11	11	12	12	14	15	441	276	315	482
Beisan	3	3	3	5	5	5	5	8	131	190	202	595
Tiberias	2	2	2	5	7	2	2	8	113	103	250	155
Safad	6	5	9	17	7	6	10	43	294	297	315	681
Tulkarm	1	1	13	19	1	1	27	50	39	39	302	371
Nablus	—	—	2	3	—	—	3	18	—	—	19	31
Jenin	—	-	4	9	—	—	4	14	—	—	20	55
Total	56	72	121	203	192	221	347	607	6444	8075	13985	18940

REPORT OF THE CHIEF FISHERIES OFFICER FOR THE YEAR 1ST APRIL 1935 TO 31ST MARCH, 1936.

SECTION I.

1. Normal fishing activity was maintained throughout the year under review although adverse weather caused a decline in the winter fishing on Lake Tiberias and also affected the sardine fishing in the southern area.

2. Quantities and values of fish landed at the different districts were as follows :—

	Kilogrammes	LP.
Sea Fisheries		
HAIFA DISTRICT		
Haifa	625,560	18,297
Acre	79,505	3,686
Zib	31,530	1,105
Tantura	16,050	920
Total Haifa District	752,645	24,008
JAFFA DISTRICT		
Jaffa	669,284	22,761
Jura	100,072	3,941
Gaza	91,482	3,321
Total Jaffa District	860,837	30,023
Lake Fisheries		
Lake Tiberias	225,408	6,483
Lake Hula	91,308	2,015
Total Lake Fisheries	316,716	8,498
GRAND TOTAL	1,930,198	62,529

3. In comparison with the previous year both quantities and gross values improved.

	1934/35		1935/36	
	Kgs.	LP.	Kgs.	LP.
Haifa District	621,660	23,010	752,645	24,008
Jaffa District	710,596	24,284	860,837	30,023
Lake Fisheries	211,705	4,010	316,716	8,498
Totals	1,543,961	51,304	1,930,198	62,529

4. The average price per kilogramme is shown in the following table :—

District	1934/35 Mils	1935/36 Mils
Haifa	37	31
Jaffa	34	35
Lake Tiberias and Lake Hula	19	27

5. The decline in prices in the Haifa district has been due to two causes. Firstly increased landing of sardines (from 247,790 kilogrammes in 1934/35 to 365,100 kilogrammes in 1935/36), this being brought about by the increased use of the Lampara net. The average price of sardines, which is never high, fell from 15 mils per kilogramme in 1934/35 to 12 mils per kilogramme in 1935/36, the decline being due partly to gluts of fish and also to the small size of the fish in the 1935/36 landings. Secondly for the first time on record two Italian trawlers fished from Haifa, landing 53,700 kilogrammes of fish, mostly small Jarbiden (Red Bream) and Sultan Ibrahim (Red Mullet) of poor size and quality and sold for an average of 30 mils per kilogramme.

6. In the Jaffa district increased landings resulted from exceptionally heavy catches of sardines at Gaza and also from the fact that the Italian trawlers which numbered seven in the period under review, an increase of two over 1934/35, remained on the coast throughout the winter.

7. Although both the quantity and value of the fish from the lakes have improved, they are still very much below what is believed to be the maximum production of those waters. The collection of statistics by the Fishery Officer, Tiberias, began in 1934/35 and therefore an accurate comparison with previous conditions cannot be made. It appears, however, that the average size of the fish is declining. The improvement in prices recorded in 1935/36 is probably due to the increased quantities of fish which were sent to Haifa, Jaffa and Tel-Aviv, at which places fresh-water fish were in brisk demand.

8. Imports for fish in brine, dry or salted were stationary while there was an increase in both the imports of fresh and canned fish and also exports of fresh fish.

IMPORTS.

	1934/35		1935/36	
	Kilogrammes	L.P.	Kilogrammes	L.P.
Fish in brine, dry and salted	1,660,206	37,812	1,631,504	37,706
Fish tinned	1,112,018	49,389	1,470,634	68,707
Fish fresh or frozen	1,458,376	54,518	1,754,852	67,151

EXPORTS.

	1934/35		1935/36	
	Kilogrammes	L.P.	Kilogrammes	L.P.
Fish fresh or frozen	73,622	2,538	160,203	5,277

The exports of fish were almost exclusively from Haifa to Syria. The increase of exports was due to the landing of small fish at Haifa by the Italian trawlers. This fish commands a good market in Syria while being of little value in Palestine.

9. The major developments during the period 1935/36 were as follows:—

1. Sponge fishing experiments at Haifa.
2. The advent of a Palestinian trawler.
3. Increased use of the Lampara net.
4. Experiments with lobster pots.

10. A visit was made, with the permission of the Department of Agriculture and Fisheries by two sponge fishing boats belonging to Messrs Honders of Cyprus. These boats employed a total crew, including shore staff of 47. They fished for twelve days from 17th to 28th of May and obtained about 700 pieces of which 35% were first quality and 55% second.

The results obtained warrant further exploitation of these fisheries.

11. An Italian built motor-trawler owned by the Palestine Boat Building Co. of Tel-Aviv, similar to the Italian trawlers, arrived during September, 1935, and worked for a short period from Jaffa and subsequently Haifa. Difficulties were experienced in obtaining local fishermen to act as crew, although results in the Jaffa district were favourable. The question of accommodation of the vessel at Jaffa and later Haifa, created difficulties and the vessel has been laid up at Port Said.

12. The success which attended the use of the Lampara net in 1934/35 resulted in an increased demand from the fishermen in the Northern District for permission to use this gear. Owing to the small mesh of the nets which it was desired to use, permission to fish within territororial waters was withheld.

13. Experiments were made both at Haifa and Jaffa with lobster pots imported from England. These experiments were not succesful but it is intended that further trials be made after the pots have been slightly modified to suit local conditions.

SECTION II.

14. The work of the Fisheries Section has been carried on by a staff consisting of the Acting Chief Fisheries Officer and the Fisheries Officers stationed at Haifa, Jaffa and Tiberias. Their duties have included the collection of the statistics of the quantities and values of catches landed and the enforcement of the regulations made under the Fisheries Ordinance, 1926.

15. The collection of statistics of the fishing industry in Palestine at nine points, seven of which are situated on the coast line of aproximately 180 kilometres is naturally a difficult matter for three Fishery Officers. The statistics collected while being as detailed as could be expected under the circumstances, are not as comprehensive as could be desired for a proper understanding of the present position of the industry.

The statistics collected are appended.

16. A close watch on evasion of the regulations has been kept during the year. Convictions obtained were as follows:—

District	Offence	No. of Convictions
Haifa	Dynamiting or using poison	20
Jaffa	do	30
Tiberias	do	8
	Total	58
Jaffa	Fishing without licence	30
Tiberias	do	88

The large number of convictions obtained at Tiberias, followed the appointment of a separate Fisheries Officer for this district.

There are indications that the taking of fish by illegal methods is being checked. During the period 1935/36, closer co-operation with the police has been secured and by the appointment of 3 fishery guards the hands of the Fisheries Officers have been greatly strengthened. As a result of these developments the number of the convictions has risen, but it is, considered that the proportion of convictions to offences has improved markedly.

17. The staff of the Department have replied to the many enquiries received from persons interested in the fishing industry. An experimental transplantation of 50 carp from the carp ponds at Kurdana to an irrigation reservoir near Acre, has been made by the Department.

SECTION IV.

19. By virtue of Palestine Gazette of 7.11.35, Supplement 2, the Chief Fisheries Officer or the Officer acting for him and the Fisheries Officer, Tiberias were empowered to do anything that a Police or Customs Officer may do under Section 4 of the Fisheries Ordinance of 1926. The powers of these officers were thus made the same as those of the Fisheries Officers at Haifa and Jaffa and include taking an alleged offender without summons or warrant to the nearest or most convenient police station or port.

A. L. CRAIG-BENNETT.
Chief Fisheries Officer.

LANDINGS OF FISH IN 1935/36 AT HAIFA.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	Total	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	LP.
Asfur	—	—	—	—	—	—	850	—	—	—	—	—	850	51
Balamida	2400	—	—	—	—	—	—	—	2000	2800	1200	3000	11400	308
Buri	6000	6800	2500	2000	6000	8000	5000	2700	5400	8000	7600	4500	64500	3391
Dawaqir	1800	900	2100	1800	3100	4150	1800	850	1670	1500	1400	2100	23170	1271
Farriden	500	400	500	—	1200	940	700	500	—	800	500	—	6040	589
Ghunbar	1400	1850	1200	—	—	—	—	700	750	450	—	2000	8350	551
Ghubbus	—	—	—	—	—	—	800	—	—	—	700	—	1500	68
Intyas	—	—	—	—	—	—	—	500	400	940	—	—	1840	124
Jarbiden	2400	2400	—	800	2150	4100	1350	3500	6500	5000	6100	6500	40800	1677
Maramir	1200	2000	1600	1500	1400	3600	2000	3000	2000	800	260	750	20110	828
Mallita	—	1800	—	—	—	—	1400	—	—	—	—	—	3200	160
Musqar	3000	5000	3500	2400	2900	3400	4150	2100	2200	800	8500	2600	40550	2394
'Uqar	—	—	—	—	850	—	—	—	—	—	—	—	850	25
Sardina	27000	40000	42000	45000	15800	45800	34000	27000	20000	5000	8000	20000	329600	3844
Skumbli	—	—	1200	800	—	—	—	—	—	—	—	—	2000	112
Sultan	8000	5800	800	1000	8150	5750	2800	6000	7000	4000	8200	12500	70000	2864
Turgulus	—	—	—	—	—	—	—	—	—	800	—	—	800	40
TOTAL	53700	66950	55400	55300	41550	75740	54850	46850	47920	30890	42460	53950	625560	18297

LANDINGS OF FISH IN 1935/36 AT ACRE.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	TOTAL	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	LP.
Buri	750	800	700	640	1500	750	780	600	700	950	1200	500	9870	537
Farriden	500	470	420	—	450	380	400	540	200	300	600	270	4530	446
Dawaqir	600	700	600	400	300	500	500	580	400	700	400	450	6130	361
Jarbiden	540	—	—	—	720	560	570	400	350	1150	—	685	4975	264
Musqar	1350	1700	560	350	600	700	1800	1600	1100	1400	1400	2800	15360	911
Maramir	800	500	150	200	200	400	200	500	850	800	—	600	5200	235
Intyas	400	540	—	—	—	—	—	—	800	—	—	—	1740	116
Sultan	700	500	—	100	500	300	600	500	1800	940	—	580	6520	337
Mallita	—	500	—	—	—	—	—	—	—	—	—	—	500	30
Ghunbar	—	—	200	—	—	—	—	700	370	1560	400	—	3230	196
Sardina	—	—	6600	14000	—	—	—	—	—	—	—	—	20600	206
Sarghus	—	—	—	—	—	—	500	350	—	—	—	—	850	47
Total	5640	5710	9230	15690	4270	3590	5350	5770	6570	7800	4000	5885	79505	3686

LANDINGS OF FISH IN 1935/36 AT ZIB.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	TOTAL	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs	Kgs.	Kgs.	Kgs.	LP.
Buri	700	—	—	—	400	500	700	—	—	1800	700	500	5300	288
Irfida	—	—	—	—	—	—	—	—	600	—	600	1400	2600	98
Dawaqir	300	—	—	—	—	400	—	—	—	—	—	—	700	42
Farriden	—	—	—	—	100	250	—	—	—	—	—	—	350	35
Ghunbar	—	—	—	—	—	—	—	—	—	—	—	100	100	6
Intyas	300	—	—	—	—	—	—	200	—	800	—	—	1300	82
Mannurin	—	—	—	—	—	—	—	1700	400	—	—	—	2180	109
Musqar	—	—	—	—	500	200	800	800	—	—	—	—	2300	138
Sarghus	—	—	—		—	—	—	400	500	—	—	—	900	45
Sardina	—	3000	6500	5400	—	—	—	—	—	—	—	—	14900	208
Skumbli	—	—	400	500	—	—	—	—	—	—	—	—	900	54
Total	1300	3000	6900	5900	1000	1350	1500	3180	1500	2600	1300	2000	31530	1105

Appendix No. 4.

LANDINGS OF FISH IN 1935/36 AT TANTURA.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	Total	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	LP.
Buri	300	500	600	400	670	200	500	350	500	700	700	—	5420	296
Dawaqir	—	—	—	—	100	100	—	—	—	—	—	—	200	12
Farriden	—	—	—	—	—	50	—	—	—	—	—	—	50	5
Ghunbar	—	—	—	—	—	—	—	—	—	—	1000	500	1500	80
Intyas	150	—	—	—	—	—	—	80	—	—	—	—	230	17
Musqar	300	750	500	500	300	—	200	900	600	3000	800	800	8650	510
Total	750	1250	1100	900	1070	350	700	1330	1100	3700	2500	1300	16050	920

LANDINGS OF FISH IN 1935/36 AT JAFFA.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	TOTAL	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	L.P.
Buri	2629	573	1310	4383	6030	2238	5034	6095	1820	3105	1581	1197	35995	2019
Bursh	200	1500	900	2000	1350	759	2747	1600	100	759	200	420	12535	77
Dawaqir	4715	1548	1385	5711	3773	2328	4351	3078	1590	3900	1266	7155	40800	1901
Farriden	1520	214	511	1828	1290	307	1917	1118	373	1770	309	1530	12687	856
Ghunbar	2028	534	300	633	165	—	—	2772	800	2448	1560	1152	12392	706
Intyas	—	861	325	250	1680	1744	3442	—	—	675	210	—	9187	458
Jarbiden	10000	15000	13000	16000	19222	22957	21000	12000	2000	1000	—	8388	140567	3965
Kalb el Bahr	675	450	—	1600	1350	1235	1580	2500	565	320	140	618	11033	82
Musqar	1222	1998	2895	3624	2667	2646	4620	8435	2079	5934	1584	3756	41460	2248
Saai	3025	10690	3800	—	—	—	—	—	—	—	—	—	17515	525
Samak Musa	2500	7000	2200	7312	—	—	—	—	—	—	—	—	19012	740
Sarghus	1716	465	1135	1299	540	1461	3270	2926	912	1382	264	510	15880	858
Sardina	—	2766	1500	3500	6955	3207	—	—	—	10605	240	2280	31053	505
Sultan Ibrahim	20022	35000	30602	32000	38660	40914	35632	18003	2564	2771	—	13000	269168	8087
Total	50252	78599	59863	80140	83682	79796	83593	58527	12803	34669	7354	40006	669284	23027

LANDINGS OF FISH IN 1935/36 AT JURA.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	TOTAL	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	LP.
Balamida	—	1800	350	530	—	—	—	—	—	—	—	—	2680	98
Buri	2500	800	1025	2500	3525	2300	3000	1500	580	3489	565	3678	25462	1181
Bursh	75	250	150	250	810	325	700	225	—	500	345	200	3830	21
Dawaqir	3200	500	1800	1500	670	1060	2010	1300	925	1180	1372	2750	18267	809
Farriden	550	78	120	500	367	170	782	525	60	500	170	546	4368	266
Ghunbar	878	356	450	345	—	—	—	850	340	710	400	800	5129	254
Kalb el Bahr	240	170	60	500	80	570	340	167	150	170	78	326	2851	19
Musqar	1500	922	1700	750	1025	825	2500	2350	1500	1505	—	1025	15602	786
Sarghus	350	600	200	50	125	400	675	1800	478	780	200	420	6078	267
Sardina	800	3500	600	1600	3500	2055	—	—	—	3750	—	—	15805	240
Total	10093	8976	6455	8525	10102	7705	10007	8717	4033	12584	3130	9745	100072	3941

LANDINGS OF FISH IN 1935/36 AT GAZA.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	Total	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	LP.
Buri	1479	640	1550	2800	3500	880	2250	850	750	2500	870	2305	20374	1014
Bursh	500	225	87	367	785	600	1000	520	200	600	—	360	5244	30
Dawaqir	1714	350	750	550	825	356	685	750	479	465	250	875	8049	371
Farriden	350	66	210	—	—	—	350	170	125	128	—	320	1719	134
Ghunbar	483	250	800	300	470	—	—	365	250	900	366	87	4271	223
Kalb el Bahr	200	90	32	1500	800	471	700	125	300	265	—	585	5068	38
Musqar	820	825	900	1250	1985	955	1600	1600	800	1600	–	600	12935	687
Sarghus	667	255	350	478	550	247	800	730	350	326	180	200	5133	244
Sardina	1100	15000	1000	2788	4800	2000	—	—	—	2000	—	—	28688	580
	7313	17701	5679	10033	13715	5509	7385	5110	3254	8784	1666	5332	91481	3321

LANDINGS OF FISH IN 1935/36 AT TIBERIAS.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	Total	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	LP. Mils
Musht Abyad	2667	2196	1137	1701	1350	1911	3021	3015	3810	2430	2754	2148	28140	1,396.930
do Addadi	918	1014	744	774	198	—	273	315	630	465	192	363	4886	225.980
do Kalb	774	915	570	666	150	—	—	—	—	—	—	135	3210	54.150
do Lubbad	—	—	—	—	—	—	273	351	717	435	360	336	2472	73.710
do Marmur	2790	3309	1509	1263	111	—	—	—	—	—	—	561	9543	196.470
Kelsin	16701	2892	1269	1491	1215	1860	5163	3327	1377	4320	6165	8856	55636	2,424.619
Qishra	5019	4701	1710	2115	1200	1392	3087	2070	1107	2229	2559	2775	29964	1,324.350
Haffafi	3036	990	708	1017	240	681	1104	1953	2580	2379	2295	1293	18276	499.410
Sardina	462	12	—	—	—	—	—	—	4056	57975	25380	54	87939	273.730
Balbut	282	216	300	366	—	99	48	246	168	30	108	111	1974	14.270
TOTAL	32649	16245	7947	9393	4464	5943	12969	11277	14445	70263	39813	16632	225408	6,483.619

LANDINGS OF FISH IN 1935/36 AT HULA.

Kind	April	May	June	July	August	September	October	November	December	January	February	March	Total	
													Weight	Value
	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	Kgs.	L.P. Mils
Musht	837	936	817,5	1227	750	2040	1683	1440	1659	696	378	318	1278,5	252.740
'Uqar	2694	2319	1495,5	2550	1020	7167	8169	9027	7623	5127	2979	4311	54481,5	1221.300
Kelsin	1158	171	321	999	1200	1989	792	1653	1200	2487	2142	972	15084	324.400
Haffafi	180	—	—	—	—	—	—	—	1038	1137	1158	387	3900	99.380
Qishra	675	165	63	84	90	156	60	468	—	—	—	45	1806	31.720
Sardina	33	—	—	—	—	—	—	—	—	—	—	—	33	0.220
Balbut	—	—	—	—	—	—	—	201	339	765	864	1053	3222	85.920
TOTAL	5577	3591	2697	44860	3060	11352	10704	12789	11859	10212	7521	7086	91308	2015.680

APPENDIX No. 10.

BOATS AND MEN ENGAGED IN FISHING DURING 1935/36.

Fishing Ports	Boats	Fishermen
Zib.	5	25
Acre	35	80
Haifa	112	330
Tantura	9	30
TOTAL	161	465

APPENDIX No. 11.

NUMBER OF BOATS AND FISHERMEN & SHORE HELPERS EMPLOYED DURING 1934 AND 1935 IN THE SOUTHERN DISTRICT.

Locality	1934			1935		
	No. of Boats	No. of Fishermen	No. of shore helpers	No. of Boats	No. of Fishermen	No. of shore helpers
Jaffa	173	183	100	174	193	150
Jura	35	77	40	38	44	75
Gaza	25	51	20	25	38	50
Jabalya	—	18	—	—	21	—
Nazla	—	20	—	—	18	—
Hamama	1	7	—	8	1	20
Deir el Balah	4	4	10	4	5	10
Hirbya	4	7	10	4	5	10
Khan Yunis	—	3	—	—	1	—
TOTAL	242	370	180	253	326	315

APPENDIX No. 12.

NUMBER OF FISHERMEN, SHORE HELPERS AND BOATS ENGAGED IN FISHING DURING 1935/36.

IN TIBERIAS AND HULA.

	Boats	Fishermen	Shore Helpers in Jarf
Tiberias	36	120	84
Hula	11	63	—
Total	47	183	84

SPONGE FISHING EXPERIMENT.

Date	Direction of Wind	State of Sea	Depth of Water	Fishing Grounds	Number of Sponges	Sea Bottom	Remarks
14.4.35	W.N.W.	Moderate	5 — 35 fathoms	Carmel Point	13	Rough weedless rocks	One boat fishing
18.4.35	N.N.E.	Choppy	5 — 35 ,,	do	17	do do	Two do
19.4.35	N.N.E.	do	5 — 35 ,,	Acre - Haifa	19	do do	do do
20.4.35	S.S.E.	do	25 — 35 ,,	Carmel Point-Athlit	48	Smooth rocks	do do
21.4.35	N.	do	25 — 35 ,,	do	30	do	do do
22.4.35	W.S.W.	Moderate	25 — 35 ,,	do	34	do	One do
23.4.35	W.N.W.	Choppy	25 — 35 ,,	do	107	do	do do
24.4.35	S.S.E.	do	25 — 35 ,,	do	120	do	Two do
25.4.35	W.N.W.	do	25 — 35 ,,	do	97	do	do do
26.4.35	N.N.E.	do	25 — 35 ,,	Z i b	105	do	do do
27.4.37	W.N.W.	do	25 — 35 ,,	do	45	do	do do
28.4.35	W.S.W.	Moderate	25 — 35 ,,	do	65	do	do do

REPORT OF THE CHIEF HORTICULTURAL OFFICER FOR THE YEAR 1ST APRIL 1935 TO 31ST MARCH, 1936.

Owing to the increasing Citrus area and an extension of activities in fruit inspection, experiments, demonstrations and instructional matters, some additions to the staff and changes in organisation were made.

Mr. A. G. Turner retired from the position of Chief Horticultural Officer and Mr. R. O. Williams, Assistant Director of Agriculture, Trinidad and Tobago, was appointed in his stead, assuming duties on the 11th July, 1935. The headquarters of the Service were transferred to Jerusalem on the 1st September, 1935. A new post of Chief Fruit Inspector was filled by the appointment of Mr. J. M. Taylor from South Africa, who was stationed at Jaffa.

Two appointments of Station Superintendent were made in Grade "O", Mr. H. Fraidlin on August 1st and Mr. Kamel Atmeh on November 1st. 1935.

At the close of the year the staff was as follows :—

HEADQUARTERS.

Chief Horticultural Officer	1
Senior Horticultural Officer	1
Viticultural Officer	1
Clerks	2
Stenotypist	1
Messenger	1

DISTRICT STAFF.

Horticultural.

Instructors	3
Station Superintendents, Grade "N"	2
Station Superintendents, Grade "O"	7
Nurserymen	5
Gardeners	24

Fruit Inspection.

Chief Fruit Inspector	1
Fruit Inspectors	3
Assistant Fruit Inspectors	8
* " " "	6
Clerks	3
* Packing Inspectors	18
* Packers	14
* Carpenters	26
* Guards	50

* Employed for the Citrus season.

THE CITRUS INDUSTRY.

Area under Citrus.

The area under Citrus was estimated at 250,000 dunams as at December 31st. 1934, and approximately 28,000 dunams were planted during the calendar year 1935 ; making a total of 278,000 dunams. This estimate is approximate and plans have been made to check it by means of a field survey.

Citrus Crop and its Distribution.

Citrus exports for the 1935-36 season totalled 5,897,310½ boxes ; the crop for 1934-35 was 7,330,846 boxes. The first estimate for 1935-36 was 8,000,000 boxes ; the reduced crop was entirely due to unavoidable, natural causes ; hot, drying, winds (Khamsin) which occurred during the month of May caused a heavy drop of young fruit. The crop consisted of 4,997,302 boxes of oranges, 850,120½ of grapefruit, 46,915 lemons and 2,973 of other Citrus, principally tangerines. Full details of the distribution as compared with the previous year are shown in Appendix A.

The United Kingdom took, as usual, the greater part of the crop, viz. 4,009,803½ boxes, this was however 1,260,686 boxes less than in 1934/35. Countries showing an appreciably increased demand for Palestine Citrus were as follows :—

	1934-35 boxes	1935-36 boxes
Poland	163,086	273,205
Sweden	108,325	162,229
Denmark	64,863	96,029
Latvia	903	26,642
Czechoslavakia	62,069	77,872
Bulgaria	6,641	20,216

Other countries showing smaller increases were Finland, Switzerland, Austria, Egypt, Russia and Norway; a small beginning was made with exports to Hungary.

Important markets which showed a decrease in the absorption of Citrus were as follows :—

	1934-35 boxes	1935-36 boxes
Germany	509,494	222,644
France	170,586	114,170
Belgium	124,002	84,392
Roumania	170,027	137,622
Holland	367,895	344,679
Yugoslavia	27,134	19,121

There was no development in the Indian and Ceylon markets and a considerable falling off in exports to Canada, the latter due to low prices and severe competition due to a reduction in the tariff on grapefruit and total remission of the duty on United States oranges entering Canada.

A table setting out all available information on the subject of Citrus duties, quotas and other trade requirements was prepared with the help of the members of the Citrus Fruit Committee, particularly Mr. S. Tolkowsky, M.B.E. ; it was made available to all shippers of Citrus.

PRICES.

The Citrus season opened in September with the first shipments of lemons which were of fair quality although still green. There was an improvement as the season advanced, and on the whole, good prices were realised, a maximum of 25/-d. being obtained.

Shipments of grapefruit commenced at the beginning of October, and although green, the fruit was of fair quality; the colour improved before the end of the month. Fair prices were at first realised, viz. 15/-d. to 16/-d. per case, but the market soon dropped to the very low level of 7/6d. per case and for two months or more grapefruit prices did not cover the cost of production and marketing. Towards the end of January there was a decided improvement and prices rose to 16/-d. per case for the best fruit. There was a further upward trend until the close of the season, the best prices realised being 22/6d. per case.

The first oranges of the season were submitted for inspection at Jaffa on the 12th of November, these although green, and slightly lacking in sugar were palatable; by the end of December all oranges were mostly fully coloured and sweet. Prices ranged from 6/-d to 16/6d, fair values being maintained for small, best quality fruit throughout the season; the larger sizes of fruit fetched the poor prices.

It is difficult to arrive at an average value for Citrus owing to the difference in prices according to size and the lack of information as to the quantities of the various sizes which are exported. An approximation of average values for the 1935-36 season on the United Kingdom market, may, however, be taken as follows: oranges 9/9d — 12/3d per case and grapefruit 10/6d. This compares with recorded figures of 9/6d and 11/6d per case respectively for oranges and grapefruit in 1934-35 and 11/-d and 14/6d per case for 1933-34.

TRANSPORT.

The transport of Citrus fruit by rail was satisfactory and no instances of lack of railway trucks were reported. The railway authorities co-operated with the Fruit Inspection Service by seeing that the railway trucks and sheds were cleared regularly of Citrus refuse.

Improvements at Jaffa port were completed early in the year and the additional facilities afforded for handling and storing fruit in the Port have been of great assistance. There were 134 working days during the season as compared with 85 last season. In Haifa harbour additional storage accommodation was provided early in the season and electrical and petrol trollies were introduced by private concerns.

The movement of fruit for export from the ports and railway stations as compared with previous years is shown in the table below:—

	1933-34	1934-35	1935-36
	Cases	Cases	Cases
Ex Jaffa	3,301,351	4,212,649	3,478,898½
Ex Haifa	2,014,824	2,953,392	2,242,609
Via Kantara by Rail	209,922	164,805	175,803
	5,526,097	7,330,846	5,897,310½

As is well known, many of the ships which carry Citrus are unsuited for fruit and the methods of handling, stowing and general conditions leave much to be desired. There was at times considerable delay in completing the loading of ships at Jaffa and all these factors are likely to tend towards deterioration of the fruit. These problems have been studied in great detail during the year by the Citrus Transportation and Marketing Committee; they form the subject of a separate report.

Fruit Inspection.

The Fruit Inspection Service maintained inspection points at Jaffa, Haifa Port, and at thirteen Railway Stations. At Jaffa the work was conducted under difficulties owing to restricted accommodation. The new inspection shed at the port is finished and will be used as from the commencement of next season. A total of 130,411 boxes were rejected, 13,646 of which were repacked by the Fruit Inspection Service and 116,765 by owners under its supervision. The quantity of wasty fruit lost in repacking was 2,115 and 6,730 respectively. The principal causes of rejection were: Scale Insects 27,597 boxes; Fruit Fly 27,769 boxes; Mechanical Injuries 21,191 boxes; Fumagine 16,383 boxes; and oversized cases 4,532. Other causes for rejection (32,939 boxes) were incorrectly marked cases, loose packing, irregular sizing and immature fruit, the last-named particularly at the beginning of the season. Rejections for fruit fly were particularly heavy and the rejections for this cause, month by month, are shown below:—

Fruit Fly Rejections.

October, 1935	— 614	boxes
November, "	— 1,867	"
December, "	— 3,687	"
January, 1936	— 7,332	"
February, "	— 6,458	"
March, "	— 7,256	"
April, "	— 555	"
Total	27,769	boxes

In the rush period of the season, very little wilting of fruit was practised with resultant damage to the oil cells; this was particularly the case with large fruit. Certain exporters took exception to rejections on this account and a few boxes of damaged fruit were sent to the Department of Scientific and Industrial Research, London, for report. The percentage of boxes of Citrus fruit rejected this season was 2.4% as compared with 1.7% in 1934-35. This increase was probably due to the short crop and an anxiety on the part of shippers to export as much as possible. A high percentage of large fruit was consequential to a short crop and to a large area of new groves coming into bearing. The detection of oversized fruit and oversized cases gave a considerable amount of trouble; the position improved after a warning had been sent to all offenders threatening prosecution. One exporter was prosecuted and fined £P.30 or three months imprisonment for incorrectly marking a consignment as to quantity of fruit in the boxes.

Reports from overseas as to the condition of Palestine fruit have, on the whole, not been particularly favourable. The Fruit Inspectors have endeavoured, by propaganda throughout the year and by close attention to inspection of consignments, to prevent the export of undesirable fruit. Unfortunately certain exporters attempted to circumvent the regulations, with harm to themselves and to the trade as a whole. Boxes awaiting shipment at the ports were frequently re-examined, and any which showed signs of wasty fruit rejected. Special guards were appointed for this work.

A lack of proper sanitation in and around packing houses is evident and packers have been urged to clean up and bury or destroy all Citrus refuse daily. The stacking of fruit in heaps as practised by many is undesirable, and the use of field boxes has been stressed. Every grove needs to have well ventilated packing shelters.

The attention of exporters has been directed to the use of a better quality wrapping paper than is customary, and to the use of cement coated nails for better securing of the boxes.

Grove Sanitation.

Eight Assistant Fruit Inspectors under the control of two Seniors were engaged during the summer months on propaganda in connection with orchard sanitation, more particularly scale insect control. Their duties were to encourage and persuade grove owners to exercise control measures for the pests and diseases in their groves ; 2,786 were visited, in which the state of scale infestation was found to be as follows :—

Number of Groves	Degree of infestation
642	Heavy
1,055	Medium
1,089	Light

A certain amount of demonstrational pruning and spraying work was undertaken.

Citrus Survey in Acre Sub-District.

A comprehensive economic survey of the Citrus groves in the Acre Sub-District was commenced in September, 1935, and the field work was completed in March, 1936. The method employed was to ascertain from the owner or tenant with the help of a prearranged uniform questionnaire, details of tenure, costs, methods of cultivation, and yields. The trees were counted and tabulated according to their state of productivity and condition. The report is in progress of preparation.

Damage to Citrus Crop by Khamsin.

The field staff was engaged for two weeks in February on an investigation undertaken for the purpose of estimating the loss of Citrus crop as a result of Khamsin damage in May 1935. This was required by Government for the purpose of considering to what extent a remission of Rural Property Tax for the year was justified.

The enquiry showed that Citrus growers in places particularly affected by the adverse weather, had suffered losses of crop varying from 30 to 80 per cent, and the Secretary of State subsequently approved of proposals to reduce the rate of taxation on groves in the seriously affected areas, from one quarter to one half according to the percentage of failure; Jaffa Central, North, and South, Acre, Tiberias and Nazareth Sub-Districts were granted 25 per cent remission ; Gaza, Ramle, Jenin, and Tulkarm 30 per cent ; and Jericho 50 per cent. The relief thus afforded to growers amounted to approximately £P.16,500.

Citrus Export Regulations.

Two amendments were made to the Citrus Fruit Export Regulations:—

(1) Limiting the exceptions to the Regulations to Syria, Lebanon and Transjordan.

(2) Limiting the maximum size of orange boxes to 74 x 37 x 30 cm., and rescinding the use of the words "Super Large".

A Standard Box for Citrus.

Further studies were made as regards a "standard" sized box for Citrus and the Citrus Fruit Committee discussed the matter in detail at several meetings when practical demonstrations were arranged by interested parties.

The pack which found most favour with members of the Committee was a set of three boxes designed by the Haorez Packers Association ; dimensions and counts are shown below :—

Size of Boxes	Orange Counts	Grapefruit Counts
29 x 42 x 68 cm.	120	80,96
26 x 42 x 68 cm.	140	64
22. 5x42 x 68 cm.	160,180,200, 220,240,260, 280,300, etc.	60,72,84,96, 108,120.

The method of packing was diagonal in all cases with a uniform number of fruit in each layer.

An experimental consignment of these cases was sent by Government to seven brokers and to the Department of Scientific and Industrial Research, in the United Kingdom, and to two brokers on the Continent. The majority opinion was not in favour of the boxes, but this may to some extent be due to the conservatism of the trade. The expenditure on this experiment was £P.65.925 mils and the receipts £P.38.768 mils.

Committees.

The Chief Horticultural Officer is Chairman of the Citrus Fruit and Citrus Fruit Advertising Committees, and the Senior Horticultural Officer is secretary of the former.

The Citrus Fruit Committee held 12 meetings during the year ; some of the most important matters which came under review and upon which recommendations were made to Government were the following :—

Citrus Export Regulations — revision as regards.

(a) date of commencement to export oranges ;

(b) size of boxes ;

(c) prohibition of export of the "100" count.

Citrus Fruit Avertising — increase of fee from two mils to three mils per box.

Standard Box for Citrus — continued investigations and experimental shipments.

Packing Material — Customs drawbacks.

Marketing and Trade Agreements — Poland, Roumania, Irish Free State, France, Austria, Switzerland, etc.

Statistics — collection and distribution of information relating to duties and quotas on Citrus in various countries.

Rural Property Tax — reduction.

Insect Pests — control of Mediterranean Fruit Fly and Red Scale.

Imperial Fruit Show — participation.

Duties on Imperial Fruit — suggested impositions of higher duties with a view to encouraging fruit production and increasing the sale of Citrus fruits.

Gas Storage and Wastage of Citrus — discussion with Dr. Tomkins, of the Low Temperature Research Station, Cambridge.

International Joint Propaganda for Citrus Juices in the United Kingdom — discussion.

Citrus Fruit Advertising.

The programme for Citrus Fruit Advertising for 1935-36 was on a larger scale than that for the previous year, the funds being provided by an increase in the fees, which were raised from 2 to 3 mils per box as from the 1st October 1935.

This fund is administered by the Director of Agriculture and Fisheries with the advice of the Citrus Fruit Advertising Committee under the Citrus Fruit Advertisement Ordinance 1933. The Committee met early in the summer and suggested a scheme based on the revenue from an estimated crop of 8,000,000 boxes. This provided £P.22,500 (after allowing for re-payment of debts) of which it was recommended £P.2,000 should be held in reserve. Owing to the very short crop, the net sum of £P.20,500 was not realised and the season closed with an approximate total debt to Government of £P.7.400. The actual expenditure for the year according to countries is shown in appendix B.

Advertising contracts were entered into with Messrs. Mather & Crowther for the United Kingdom, The London Press Exchange for the European continent, Messrs. W. H. Smith & Son Ltd. for Canada, India and Ceylon, and Messrs. Aron Advertising for Palestine. The propaganda in all countries was carried out to the satisfaction of the Committee and the Director of Agriculture and Fisheries.

OTHER FRUITS.

The total area under deciduous fruits in 1935 was 49,280 dunams, and figs 98,742 dunams.

The hot, easterly winds of May and June caused considerable damage to most fruits. Early varieties of apricots, plums, and apples gave fair crops, but all others were poor in yield and quality. Large quantities of fruit continued to be imported from various countries.

Extensive preparations for new orchards were made, but owing to late and short rains, planting was restricted. Insect pests caused considerable damage. The Capnodis Beetle killed thousands of trees, the Mediterranean Fruit Fly spoilt much fruit, and Codling Moth, borers, scale insects, aphis, etc. were troublesome.

A certain amount of interest was taken in fruit by-products: grape and strawberry juice being prepared in local factories.

Olives.

The olive crop was smaller than for the previous year in the South of the country, but about normal in the North. Much damage was caused to the early ripening varieties by olive-fly. Investigations continue to be made by the Government Analyst as to the cause of the high acidity of olive oil. Three hundred olive combs were distributed for the purpose of demonstrating better methods of gathering the crop. Twenty-five thousand wild olive suckers were received from the Forest Reserves for budding and issue to farmers. The total area under olives in 1935 was estimated at 474,466 dunams.

VINES.

The extension in the planting of table vines, especially in non-irrigated areas, was somewhat curtailed owing to late and inadequate rains. The total production of grapes in 1935 was estimated at 35,100 tons. Local wholesale prices ranged from £P.9 to £P.15 per ton.

The centre of production of wine grapes is now the Zikhron Ya'aqov area, and a considerable extension of planting was undertaken ; the yield was good as compared with the Jaffa-Ramle plain.

Table grapes varied in yield according to district, variety, and culture. Early varieties in the Jordan Valley were good, mid-season varieties in the plains, grown without irrigation, were below normal, late varieties were spoilt by rain.

HORTICULTURAL EXPERIMENT STATIONS.

There were ten Horticultural Stations operating throughout the year, four in the hills: Farradiya, Nablus, Jerusalem, and 'Ein 'Arrub, three in the plains, Majdal, Sarafand, and Acre, and three, Jericho, Farwana, and Beisan, in the Jordan Valley below sea level. Jerusalem Horticultural Station was handed over to the Entomological Service at the close of the year, being replaced by the new station at 'Ein 'Arrub.

A general scheme for recording annually measurements of the growth of deciduous trees was arranged for all stations, and the first measurements of girth of the trunks both above and below the bud union, were taken and the compatability of stock and scion noted. This should provide useful data for comparing the suitability of stocks and scions for the varying conditions of the country. Deciduous trees at all stations were sprayed with a winter wash of 10% lime sulphur.

An experiment was undertaken at Farradiya, Nablus, Acre, and Majdal Stations to compare October pruning with the usual winter practice ; apricots, peaches, plums, almonds, apples, and pears, were used for the experiment. The first year's observations indicate that early pruning advances growth in both hill and plain. In the plains this early development was detrimental to apples, pears, and to certain varieties of stone fruits. A considerable amount of experimental work with all varieties of fruit will need to be undertaken at all stations over a period of years before the system of early pruning can be recommended.

Nurseries for distribution of plants to the public were maintained at Acre, Farradiya, Majdal, Nablus, and Jerusalem. The total number of trees distributed from all stations is given in appendix C.

In addition to these, 12,000 stocks of pome and stone fruits, 1,000 fig cuttings, 2,500 olive suckers, 2,500 vine cuttings, and 13,500 banana suckers were distributed to villagers of the Nablus Sub-District who had suffered loss during the floods of February 1935. A number of persons who made applications for trees failed to collect them and 8,093 trees, and 8,736 vines remained undistributed due to this cause.

A list of plants raised at each station and the number distributed to villagers in the vicinity is given in appendix D.

The number of seedlings planted for budding in 1936-37 is given in appendix E., 178,000 vines were grafted and planted at Acre.

The Acre and Majdal Nurseries were enlarged, the former by 30 and the latter by 7 dunams. Capnodis gave considerable trouble at Farradiya, 150 stocks being killed in one month, notwithstanding constant collection of beetles. Nematodes attacked almond stocks at Farradiya and Acre ; the infested area was treated with sulphate of ammonia and lime. Excessive irrigation is thought to be a predisposing factor. At Majdal over 600 trees, mostly summer budded, suddenly died in August ; root-rot was determined as being the cause, and it is thought that this was accelerated by general weakening of the trees due to summer budding.

In all stations, arrangements have been made for a three year rotation system so that the same area will not be planted with nursery stock year after year.

ACRE HORTICULTURAL STATION.

This station was opened in 1932 and the planting of permanent trees commenced in 1935. It is situated in the northern plains coastal belt almost at sea level, with a flat or gently sloping, southern aspect, protected from wind on the northern side. The area was extended by 30 dunams during the year and now totals 180 dunams. The soil is a sandy loam ; the rainfall for the year was 515.4 mm.

The objects of the station are to test and demonstrate under northern coastal plain conditions the culture of Citrus, deciduous fruits, apples, pears, quinces, plums, olives, pomegranates, loquats, walnuts, pecans, and vines, and also to maintain a large plant nursery for the sale of plants principally vines and deciduous trees, to the general public ; the nursery now occupies 90 dunams.

Citrus.

The Citrus collection was extended and now comprises 18 varieties of oranges, 8 of grapefruits, 6 of mandarines, 3 of tangelos, 12 of citrons and lemons, and 2 of kumquats. New introductions were made from South Africa, viz. Genoa Lemon ; Cape Naartje Mandarines ; Glen William seedling, Mediterranean Sweet, Paper Rind and St. Michael's oranges.

The grove made good progress during the summer months, considerable protection from wind being afforded it by *Crotalaria juncea* and *Sesbania aegyptiaca* which were grown as temporary windbreaks. In autumn and winter the trees suffered defoliation from high winds. A few trees were attacked by soft brown scale and were sprayed with 2% alboleum.

Fruit Orchard.

All vacancies in the plots were filled and a new area was planted with standard varieties of apples and plums budded on East Malling stocks. The collection now comprises 22 varieties of plums on 4 stocks ; 16 varieties of apples on 3 stocks ; 4 standard varieties of apples on 4 East Malling Stocks ; 9 varieties of pear ; 6 varieties of loquats on two stocks ; 5 varieties of olives ; 26 varieties of plums ; 11 of walnuts and pecans ; 7 of pomegranates ; 5 of persimmons ; 3 guavas ; 3 Feijoa ; and 2 Annonas.

New introductions were as follows :—

Peaches.

Angel.

Peen-to.

Crawford, Improved Waldo, Killiekrankie, and Shackleford from South Africa.

Walnuts.

A collection from East Malling Research Station.
Gulhab D.
Gulhab B.
Woodland.
Maylannaise.
Northern Cleannet.
Pride of Ventura.
Franquette.
San José Mayette.
Lady Ilesse.
Mayette.

Pistachio Nuts.
Allepo.
Bronte.
Kay.

Olives.
Bayouni.

Annonas.
Whaley, Booth,
Delicious,
Mc. Pherson.

} from California, U.S.A.

The early development of the plum trees originally introduced from India, apples from Syria, and early pears from the United States of America was noticeable.

Vineyard.

The vineyard of table grapes has made good progress, and that of American vines has produced 15,000 stocks for grafting purposes.

The collection has been increased and now totals 60 varieties. Plants of each are being tried on the stocks, Rupestris du Lot and Chasselas x Berlandieri 41B. All are trained on trellises and receive the same cultural treatment with a view to ascertaining the most promising varieties for the locality.

Jericho Horticultural Station.

This station dates from the year 1926. It is situated on flat land near the town of Jericho 250 metres below sea-level, and subject to extremely high temperatures and low rainfall. In area it is 60 dunams and the soil is a silty loam.

The objects of the station are to study under the peculiar conditions of the Jordan Valley various forms of fruit culture, particularly irrigation problems. The experiments include the following:—

Citrus : Distance of planting, irrigation, stocks, varieties and cultural methods.

Bananas : Irrigation, fertilizers, pruning, propagation and planting methods.

Dates : Propagation, cultural, pollination, introductions and drying.

Other Crops : Introduction and testing of papaws, Annonas, pomegranates, loquats, avocados, mangoes, persimmons jujubes, Carissa and guavas.

The weather conditions during the year were quite abnormal. The summer commenced with an unusual spell of heat and drought which lasted for about 40 days. The winter was mild with poor and irregular rains ; the total precipitation was 92.0 mm. as compared with an average of 116.0 mm. As a consequence trees and plants were severely sunburned, banana fruits and plants being particularly affected. A heavy drop of Citrus fruit resulted from the hot "Khamsin" winds which occurred in May, and defoliation and desiccation of branches was general in Citrus, avocados, Annonas, loquats, etc. The warm autumn and winter were favourable for the development of Mediterranean fruit fly which caused considerable damage to Citrus and other fruits.

Experiments and investigations reported in previous years have been continued and a number of new experiments instituted. A new area was planted with bananas, citrus, vines and some sub-tropical trees.

Citrus.

The distance of planting experiments indicate at present that spacings of 4 x 4m and 5 x 5m are more suitable to the conditions in the Jordan Valley which suffers from wind and sun, than spacings of 7 x 7m ; trees planted 3 x 3m become too crowded.

Irrigation experiments were continued for the fifth year. The intervals of irrigation remained at 10, 14 and 21 days. The best development appears to be for the 10 days interval followed by that for 14 days.

The optimum duty experiments were continued as in the previous year, applications of $3m^3$, $2\frac{1}{2}$ m^3 and $2m^3$ per dunam per day being given. There is no apparent difference in the development of the trees.

Root stock experiments still seem to indicate that for Jericho conditions the rough lemon is best, with sour orange next in order of merit ; the sweet lime shows poor results. These observations relate to the general development and health of the trees, no records of yield having been taken.

The collection of Citrus has been increased by planting Jericho Beladi, Zaglouli, Beirouti, Hamlin, Ruby Blood and Paterno Blood oranges.

Mediterranean fruit flies have been combatted by spraying with Sodium Fluosilicate and by trapping in hanging bottles baited with Clensel, with fair results.

Bananas.

Experiments in fertilizers have been discontinued owing to negative or confusing results ; bananas treated with organic manure respond readily.

A desuckering experiment was instituted in the summer of 1935. Two blocks of five rows in replicate were left untouched — following the local practice, and two other blocks of 5 rows each were desuckered leaving only one sucker beside the mother plant.

Propagation experiments were instituted in the spring of 1936 with a view to ascertaining the difference in development of untrimmed suckers, the local method, as compared with the West Indian method of maiden suckers cut back to 20 cms. above the ground.

An experiment was laid out to compare the advantages of planting bananas in trenches and in basins. The plots of Cavendish pure strain and Ananica varieties were extended. A banana nursery was planted on an area of one dunam for the purpose of providing a more rapid increase in the supply of planting material.

Dates.

Consignments of 50 off-shoots from Egypt and 30 from Deir-el-Balah were received and planted.

Experiments in drying dates were continued. Some were treated with sulphur fumes and others with carbon bisulphide gas. The fruits were dried for 4 to 5 days in the sun and the dried product was of good quality, those treated with sulphur and dried for four days only, were, however, superior.

Papaws.

Several new varieties, viz. Solo (Honolulu) Bisexual and Prolific (Australia), and Mamie (British Honduras) were planted.

Ten male plants were decapitated in May, 1935, and the new shoots produced upon the trunk gave male flowers in each case.

Loquats.

The collection comprises the undermentioned varieties :— Champagne, Early Red, Jericho, St. Michael, Tanaka, Herd's Mammoth, Matchless and Thame's Pride.

Loquats budded on loquat stocks have given far better results than those budded on quince.

Other Sub-Tropical Trees.

Avocados and Kakis are not thriving. Jujubes, particularly the Sui Men variety and Granadilla (Passiflora edulis) are growing well. The Annona trees are well grown but give poor yields. Pomegranate fruit suffered severely from the pomegranate butterfly (Verachola livia), protection was afforded the fruits by bagging.

Vines.

The vineyard shows good promise and has been extended. It contains the following varieties:— Joannenc Charnu, Muscat d'Alexandrie, Sultanina, Chasselas doré, Muscat of Hambourg, Dattier de Beyrouth, Salti and Dabouki.

Windbreaks.

Crotalaria juncea and Castor were again used as temporary windbreaks with fair results.

NABLUS HORTICULTURAL STATION.

This station, which dates from December, 1933, is situated at 491 metres above sea level with a gently sloping south-eastern aspect, exposed to strong winds. It covers an area of 100 dunams and the soil is a deep, rich, clayish loam.

The objects of the station are to test and demonstrate under hill conditions the culture of olives, both oil and pickling varieties, walnuts, pecans, hazel nuts, apricots, plums, peaches, nectarines, almonds, cherries, figs, apples, pears, quinces, vines, pomegranates, carobs and persimmons. A small plant nursery for distribution of trees to the public is also maintained.

Work during the year was mostly of a routine nature and the general development of most of the trees was good. The total rainfall was 352.5 mm.

The orchards were ploughed across the slope and ridges formed previous to the winter rains for the purpose of preventing soil erosion. All vacancies were filled by planting peaches 19, plums 23, almonds 26, apricots 28, olives 10, figs 11, cherries 28, apples 13, and pears 21 ; in the vineyard about 100 new vines were planted. A few trees attacked by Black Aphis were sprayed with nicotine sulphate. A severe pruning was given to the trees as many were too highly formed. The permanent windbreaks were extended by the planting of Cupressus and temporary windbreaks of Crotalaria and Castor were grown in strips at a distance of 50 metres apart.

The house for the Station Superintendent, a new water cistern, and an extension of the irrigation system were completed

'Ein 'Arrub Horticultural Station.

This station, at which work was commenced in September, 1935, borders on the main Jerusalem-Hebron Road between kilos 24 and 25 in the southern part of the main eastern ridge. It is about 840 metres above sea level with undulating and steep rocky or stony land. It gets some protection from the surrounding hills but is somewhat exposed to the northern and south-western winds ; 100 dunams are reserved for horticulture. The soil is of a loamy nature. Much of the land needed terracing and 1,000 metres of stone wall has already been built. Considerable progress has also been made with the construction of roads and with a survey of soil depths. Deep ploughing of the orchard land was done before planting.

The objects of the station are important as it is the intention to demonstrate deciduous fruit and vine culture in a district where only primitive methods are practised. A small nursery for raising plants for distribution to the public has been started.

A scheme for experiments as outlined below was prepared and planted:—

Apples (4.8 dunams) 240 trees were planted at a distance of 4 x 4 metres apart. The plot was divided into seven blocks, each block having a different stock. The stocks used were Doucin, Malus communis, Khashabi, East Malling Nos. 1, 2, 13 and 16. Each block contains 24 trees of four standard apple varieties, viz. 6 of Red Astrachan, 6 of Transparente de Croncels, 6 of Reine des Reinettes and 6 Grand Alexander. The blocks were surrounded by 72 guard trees of Rome Beauty and Banana Apples on Malus communis stocks.

Pears (4¼ dunams) 222 trees consisting of eight varieties of pears, Beurré Giffard, Succari, Bartlett, Kubeibah, Winter Nelis, Triomphe de Vienne, Epargne, and Beurré d'Amanlis budded on Pyrus communis, were planted in 16 rows — 12 trees in a row. A second plot of Beurré Giffard was planted on two stocks — Pyrus communis and Cydonia vulgaris. A third plot was planted as a 3 x 3 Latin Square with three stocks, Pyrus communis, Pyrus syriaca and Craetagus azarolus, to be budded to one variety of pear ; this experiment was planted in the shallower soil area.

Quinces — Twenty-two trees of Pineapple, Smyrna and Portugal, were planted.

Cherries — Twenty-seven trees of Black Tartarian, Anglaise Hative and Chios on Mahaleb were planted at the eastern end of the station.

Apricots. A 3 x 3 Latin Square of three varieties of apricots, viz. Blenheim, Royal and Mustakawi on apricot and almond stocks was arranged. The apricots on apricot stocks were planted as budded trees and the almond seeds from known selected mother trees were sown in situ for budding in the autumn of 1936.

Peaches — A similar experiment to the above was planned for peaches, the varieties being Mayflower, Amsden and Elberta. A collection of peaches of the varieties Lutichou, Coprey's Imported, Lovell, Jewel, Vedette, and nectarines Valliant and Stanwick were planted.

Stock Experiments with Almonds.

A study of various selections of bitter almonds, collected in the country, for resistance to Capnodis was instituted.

The experiments are as follows :—

(a) An area of about 3 dunams was sown with almond seeds of three types. These will be budded to four standard varieties of Santa Rosa, Beauty, Wickson and Golden Japan, plums arranged in a 4 x 4 Latin Square.

(b) Four different recorded types of almond seeds were sown in a 4 x 4 Latin Square all to be budded to one variety of plum.

(c) one type of almond was sown in situ for budding with plums (Santa Rosa), apricots (Royal), peaches (Elberta) arranged in a 3 x 3 Latin Square. This experiment also embraces a study of compatability of a particular type of almond to various kinds of fruits.

(d) One type of almond will be subjected to three methods of propagation arranged in a 3 x 3 Latin Square and budded to one variety. One-third of the seeds were sown in situ, one-third were sown in the nursery and will be transplanted as seedlings to be budded in the orchard, and one-third were sown in the nursery and will be budded there to be transplanted as budded trees.

(e) A collection consisting of French Improved prune, Yellow Egg and Climax plums, was planted.

Buildings.

Quarters for the Station Superintendent, an office, implement shed, stable and labourer's quarters were constructed by the Public Works Department and a manure pit was dug in the rock.

Windbreaks.

About 4,000 plants of Cupressus pyramidalis, C. horizontalis and 500 Pinus halepensis were planted around the boundaries, the pines being planted on the rocky areas. Cross rows of Cypresses were planted north and south as a protection from western winds. A row of carob trees was planted on either side of the main road through the Station.

Majdal Horticultural Station.

This station, which dates from January, 1933, is situated in the southern plains at 40 metres above sea level. It has a south-eastern somewhat undulating aspect and is exposed to strong winds. The area is 34 dunams, the soil somewhat heavy and the water-supply scarce and saline (350 parts chlorine per million).

The objects of the station are to demonstrate dry and irrigated deciduous fruit and vine cultivation, to test sub-tropical fruits under irrigation, and oranges, grapefruit and lemons on sweet lime, rough lemon, and sour orange stocks. Apples, pears, quinces, plums, almonds, peaches, loquats, persimmons, mangoes, avocados, guavas, pecans, walnuts, dates and citrus are well established. A small plant nursery is maintained.

The weather was mild throughout the year except for hot weather in May and June, the rainfall of 338.1 mm. was below the average.

The trees in the orchard made good growth and vacancies were filled. A severe pruning was undertaken with a view to shaping the trees. It was found necessary to extend the irrigation layout through the vineyard as the rainfall in this locality is not always sufficient for the proper growth of vines. The vines made good growth and vacant places in the plots were filled with new plants according to plan. Thirty Hyani date offshoots were planted.

The citrus trees are making good progress and do not show any effects of the high chlorine content of the irrigation water.

About 700 cypresses were planted out, either as replacements of dead trees or for the formation of new windbreaks. Sunn hemp for the purpose of temporary windbreaks gave very good results.

Farwana Horticultural Station.

This station, dating from 1934 (planting being commenced in February and March 1935) is situated on the Beisan-Jericho Road, about 4-5 kilometres from Beisan and some 200 metres below sea level. It is flat land, 90 dunams in extent, exposed to strong winds, and is watered by three springs varying in salinity as follows: 88 parts chlorine per million, 213 parts per million and 390 parts per million. The soil is a heavy loam.

The station is divided into three equal blocks each spring serving a separate block and the objects of the station are to test under particularly low-lying conditions, and different degrees of salinity of water, the culture of grapefruit, oranges, lemons, early varieties of table grapes, dates, bananas, pomegranates, and olives (pickling varieties). Replicates of all experiments are contained in each block.

A rainfall of 212.5 mm. was registered for the year as compared with a normal precipitation of 236.5 mm. The spring and early summer of 1935 were very hot and unfavourable for the growth of plants ; the latter part of the summer and the following winter were mild and dry.

Citrus.

These have not grown well and most of the trees were so poor and stunted that it was decided to uproot them all and replant new trees, opportunity being taken to revise the scheme for planting. The effect of the various waters used on the condition of the trees was very marked, the block containing the highest percentage of total solids, containing yellowish stunted trees as compared with those in the blocks supplied with water of lower salinity. Rough lemon showed better growth and development under adverse conditions than did sour orange or pomelo. The new experiments were laid out in the form of 3 x 3 Latin Squares with a replicate in each different water treatment block. The experiments planned and planted were as follows :—

Experiment I — *Stocks for grapefruit.*

Marsh Seedless budded on rough lemon, sour orange and pomelo.

Experiment II — *Stocks for oranges.*

Shamouti, Washington Navel and Baladi Orange budded on sour orange and rough lemon.

Experiment III — *Stocks for lemons.*

Eureka, Lisbon and Villa Franca budded on sour orange and rough lemon.

Experiment IV — *Method of planting.*

Budding one year old stocks in situ, two year old stocks in situ, and planting trees budded in the nursery.

It was only possible to plant Experiment III and the seedlings in Experiment IV. The preparation of the planting material required for the rest of the experiments was commenced at the Acre Horticultural Station.

A soil survey of the Citrus blocks was undertaken by the Government analyst and the Irrigation Officer in order to study the cumulative effect of the salinity of the different irrigation waters on the composition of the soil.

Bananas.

Despite the mild winter all bananas suffered considerably from wind but recovered later. Temporary windbreaks of Crotalaria juncea gave considerable protection to the plants. Irrigation was not practised during the winter, contrary to local custom, with favourable results. This will have to be tested over several seasons before a final conclusion can be arrived at. A duplicate of the desuckering experiment at Jericho, where some rows are left with all suckers and others desuckered, was laid out. The effects of the water containing the highest percenatge of salinity was evident from the chlorotic leaves and stunted growth. Applications of ferrous sulphate at the rate of 25 kilos per dunam gave noticeable results two weeks after treatment.

Grape Vines.

The majority of vine varieties grown at this station show a thickening of the union when budded on Mourvedre x Rupestris 1202 ; the Pearl of Gzaba is outstanding in general development. The collection was increased by nine hundred plants.

Dates.

Poor results were obtained with the date offshoots planted last season ; about 20% are showing signs of growth. A further consignment of 60 offshoots was received from Deir el Balah and planted.

Other Sub-Tropical Trees.

Olives, pomegranates, papaws, avocados, Annonas and granadillas were planted and show satisfactory growth.

Windbreaks.

The permanent windbreaks of Cupressus horizontalis and C. pyramidalis are growing well, Cupressus macrocarpa has failed. The Ipomea around the station has covered the fence and gives considerable protection. Crotalaria juncea sown in April reached a height of $2\frac{1}{2}$ — 3 metres and was effective from two to seven months of age. A later sowing in August produced a shorter growth, 1 — 1.1/3 meres, but gave a higher yield of seeds than the earlier sowing. Castor seeds sown in November grew well but it is too early to comment on their suitability for temporary windbreaks under prevailing conditions.

Farradiya Horticultural Station.

This station was established in 1932 and planted in the early months of 1933. It is situated in the mountainous, northern region at 730 metres above sea level ; and is about 100 dunams in area. The land is partly of an undulating character with good and fairly deep, somewhat heavy, loamy soil, whilst the remainder is hill land of stony or rocky nature some of which is terraced. The rainfall for the year was 516.5 mm.

The objects of the station are to demonstrate under hill conditions the culture of apricots, peaches, plums, olives, apples, pears, quinces, vines, and other fruits and nuts, and to test new varieties. A small plant nursery is maintained

This station suffers considerably from exposure to high winds and the windbreaks have been strengthened by additional rows of cypress trees and a further plantation of pines on the rocky western side. Seeds of Crotalaria juncea were sown around the nursery for the formation of temporary windbreaks.

Orchards.

Ridges were ploughed across the slopes to prevent surface washing, and drains dug to carry off surplus water. Vacancies in the plots were filled and the carob, fig and vine plots extended before the February rains. The ravages of Capnodis in the orchard continue to be serious. Many trees budded on peach, apricot and myrobalan stocks were killed. All surface roots of stone-fruit trees were exposed and searched for larvae, and the crowns of the trees and the main surface roots were painted with Bordeaux paste. Adult beetles were collected.

The vines were pruned for trellis training, for stake training, and for ground training, with a view to ascertaining the merits or demerits of each method.

Beisan Horticultural Station.

As stated in previous reports the work of this station has been almost entirely superseded by the Farwana Station 4-5 kilos distant, on account of the unsuitability of the soil and irrigation water for many crops. Poor drainage was also a contributory factor. Olives and carobs appear to thrive best and the plots of both were slightly extended by the planting of forty-four trees of the Ascolano, Manzanillo and Sevilano varieties of pickling olives and by 25 trees of "Cyprus" carobs.

The development of the vineyard is only fair. In the plots where the lime content of the soil is high, chlorosis is very noticeable in all varieties and on all stocks. The banana plantation was discontinued.

In the Citrus collection the Washington Navel orange apears promising and lemons show fair development and normal yields. A number of shamouti oranges and Marsh Seedless grapefruit budded on rough lemon stock were planted for the purpose of testing the stock under the soil and water conditions of Beisan.

Jerusalem Horticultural Station.

The shallowness of the soil and the high incidence of Capnodis infection and Mediterranean Fruit Fly has made stone fruit culture a difficult proposition at this station, and it was decided to transfer it to the Entomological Service at the end of the year as a field laboratory for the study of the life history of Capnodis and for experiments in mechanical and chemical means of control.

An area of three dunams planted to apples and pears was reserved as a demonstration plot for the Horticultural Service. The nursery work was transferred to the new station at 'Ein 'Arrub.

Citrus Demonstration Station, Sarafand.

This station dates from autumn, 1933, and is situated on the coastal plains in the midst of the Jaffa orange belt. It is 150 dunams in extent, and 60 metres above sea level with a gently sloping northern aspect. The soil although generally of a sandy nature is exceedingly variable.

The main objects of the station are to demonstrate and test methods of citriculture and to maintain a collection of Citrus varieties ; the principal schemes laid down are distance of planting and tree planting methods for oranges ; comparison of stocks for grapefruit and oranges ; irrigation methods, and general orchard practices. A small nursery is maintained.

The general development of the grove was poor. The hot and dry winds of April and May, 1935, caused considerable damage to the newly planted trees. A number succumbed while many others only made stunted growth. The winter was mild and the rainfall low (273.3 mm.). A cloud burst occurred on the 20th October and some damage was done to the lower part of the station by a backwash from the main road.

Citrus.

All badly developed trees were replaced. The experiment to test budding at three periods, autumn 1936, spring 1937 and autumn 1937, was re-designed in the form of a 3 x 3 Latin Square ; the oranges are to be budded on sour orange and sweet lime stocks.

An area of 2½ dunams was planted with 40 Washington Navel and 40 Valencia Late oranges budded on sour stock, the budwood of which was imported from California.

Two and a half dunams were planted with a collection of mandarines budded on sour stock — Nocatee, King, Ellendale, Yousef Effendi, Dancy, Clementine and Satsuma. A number of stocks were planted out to complete the area which will be budded to other mandarine and tangerine varieties. Triumph Grapefruit, Glen William orange, Owaki Satsuma and Silverhill orange were introduced from Florida and a consignment of 2,000 buds of Washington Navel and Valencia Late buds were received from California and budded on sour orange and rough lemon stocks.

A number of sub-tropical trees were planted around the buildings. A few litchi plants were received from South Africa of which four have survived.

Windbreaks.

New windbreaks of *Cupressus macrocarpa, C. pyramidalis,* and *C. horizontalis* were planted for protection from south-western winds. Vacancies in existing windbreaks were filled.

Nurseries.

Mango seeds received from Egypt were stratified in sand and sown in pots. Peach and Sabre received from South Africa have germinated.

Horticultural Demonstration Plots.

The scheme of demonstration plots was considerably extended by planting orchards in places where fruit growing is backward. A complete

list of the plots is given in Appendix F. This brings the total number of demonstration plots in the country to 29, comprising : vines 5, olives 5, dates 1, deciduous fruits 18.

The object of the plots are :—

(A) to instruct growers as to better methods of fruit growing ;

(8) to test the suitability of various standard varieties in each area ;

(C) to serve as a source of budwood.

Olives.

There are now five plots, Reina, Ya'bad, Qalunya, Hulda and Beit Jala ; the Ya'bad plot was taken over during the year in place of the plot at Burqa, which had to be abandoned on account of the difficulty of collecting correct data from growers. The plots are used for demonstrating rejuvenation, and manuring. Green manuring did not prove a success in non-irrigated orchards.

Vines.

Planting of table grape varieties on American stocks in Phylloxera infested areas was continued. New areas were planted at Safsaf (Safad sub-district), Ramallah, Ramallah Broadcasting Station, Tarshiha (Acre sub-district), and Silat el Harithiya (Jenin sub-district). At Tarshiha and Silat el Harithiya four new stocks were tried, viz: Rupestris x Berlandieri R/99 ; Rupestris x Berlandieri R/110 ; Berlandieri x Riparia 8B Tel. and Berlandieri x Riparia 5BB. The plots in Beitin and Safsaf were handed over to growers.

Deciduous Fruits.

Vacancies in the variety orchards and windbreaks were filled. All trees were staked and sprayed with a winter wash.

Date Centres.

A date demonstration plot was planted at Kinnereth near the sea of Galilee and a study of the effect of various factors on the rooting of offshoots, size of offshoots, moisture, light, and temperature, instituted.

RESEARCH.

Storage of Citrus.

In Mr. Stockdale's report on his visit to Palestine 1935, he recommended that "An investigation into the possibiliies of gas storage for oranges should be undertaken in collaboration with the Low Temperature Research Station at Cambridge, with the object of ascertaining whether it is possible by gas storage to prolong the season for sales of Palestine Citrus Fruit in Palestine itself and the United Kingdom".

On his return to England Mr. Stockdale discussed the matter with the Department of Scientific and Industrial Research, with the result that Dr. R. G. Tomkins of the Low Temperature Research Station at Cambridge was sent to Palestine for one month for the purpose of the investigation ; he arrived on March 6th. 1936.

Dr. Tomkins made a tour of the principal Citrus areas of the country, visited Research Institutions and Experiment Stations, addressed two meetings of the Citrus Fruit Committee, and discussed informally with officials and trade representatives the many aspects of the problem.

Root Stocks for Deciduous Fruits.

Collections of local almond seeds for use as stocks for stone fruits have resulted in a very mixed nursery population differing considerably in growth, habit and propensity for successful budding. At 'Ein 'Arrub Horticultural Station a start has been made to propagate from marked wild forest trees.

Arising out of a suggestion made by the Agricultural Adviser to the Secretary of State, inquiries were made as regards Indian stocks likely to be suitable for the conditions of Palestine. The replies received so far show that the same stocks are used to a great extent. A promise to send a few local stocks of apples and pears for trial in Palestine has been received from the Fruit Specialist to the Government of Punjab.

SERICULTURE.

Selected varieties of silkworms were reared in various parts of the country and 20,000 mulberry seedlings were distributed free of charge to farmers, institutions and schools. Thirty thousand seedlings, which were too small for distribution, were transferred from Nablus to Farwana Horticultural Station. The small quantities of cocoons obtained by private rearers and schools were of excellent quality. In future, work on the development of sericulture will be concentrated in a few villages and settlements with a view to ascertaining weather it is possible to obtain practical and profitable returns.

The lectures on sericulture at the Kadoorie Agricultural School, Tulkarm, were continued.

CONTROL OF PLANT NURSERIES.

New regulations under the Plant Protection Ordinance were enacted to control plant nurseries. The object is to ensure that plants distributed from private nurseries shall be true to name and type, and free of pests and diseases. It is hoped that this control will stimulate and improve plant production.

One hundred and eighty-four nurseries were inspected, of which one hundred and twenty-four were recommended as fit for registration and licensing for the distribution of plants to the public. Only eighty subsequently applied for licenses.

The distribution of the nurseries according to districts is shown below :—

	Recommended for Licensing	Not recommended for Licensing	Licences issued
Northern District	77	44	47
Southern District	41	16	27
Jerusalem District	6	—	6
	124	60	80

The number and kinds of plants raised by these nurseries is as follows:—

Kind of Plant	Number of Plants
Citrus	1,054,670
Vines	177,346
Apples	137,609
Plums	56,733
Pears	43,232
Olives	12,110
Apricots	11,928
Peaches	10,789
Quinces	8,276
Cherries	2,136
Walnuts	1,620
Date Offshoots	650
Annonas	644
Loquats	380
Diospyros Kaki	344
Persimmons	350
Mulberries	245
Mangoes	240
Avocados	185
Pomegranates	112
Figs	50
Various seedlings	128

The stocks in general use are as follows :—

Vines.

Chasselas x Berlandieri (41B).

Aramon x Rupestris Ganzin No. 1.

Rupestris du Lot.

Riparia x Rupestris 3309.

Apples.

Malus communis.

Doucin.

Khashabi.

Plums.

Myrobalan.

Karassia.

Klabi apricot.

Almond.

Pears.

Pyrus communis.

Cydonia vulgaris.

Olives.

Olive truncheons.

Olive seedlings.

Apricots.

Klabi apricot.

Karassia.

St. Julien.

Imported Apricot seedlings.

Peaches.

Almond.

Imported Peach seedlings.

Quinces.

Cydonia vulgaris.

Cherries.

Mahaleb.

Walnuts.

Juglans regia.

The work of inspection was undertaken chiefly by the Fruit Inspector, Haifa, and the Sericultural Officer and the control of movement of plants was supervised by officers of the Entomological Service. The General Manager of Railways assisted in controlling the movement of plants.

FINANCE.

Statements of expenditure and revenue are shown in appendices G and H.

R. O. WILLIAMS.
Chief Horticultural Officer.

APPENDIX A.

STATEMENT SHOWING THE EXPORT OF CITRUS FRUIT TO VARIOUS COUNTRIES DURING THE SEASON 1935/36 IN COMPARISON WITH 1934/35.

Destination	Oranges	Grapefruit	Lemons	Others	Total 1935/36	Total 1934/35
	Boxes	Boxes	Boxes	Boxes	Boxes	Boxes
United Kingdom	3,358,854½	625,505	23,751	1,693	4,009,803½	5,270,490
Holland	311,261	32,113	1,224	81	344,679	367,895
Poland	254,743	16,322	2,140	—	273,205	163,086
Germany	207,483	15,161	—	—	222,644	509,494
Sweden	148,132	13,327	235	535	162,229	108,325
Roumania	114,848	6,475	16,339	—	137,622	170,027
France	77,000½	36,366½	803	—	114,170	170,586
Norway	97,642	9,606	285	—	107,533	105,791
Denmark	85,238	10,648	17	126	96,029	64,863
Belgium	63,000	21,096	296	—	84,392	124,002
Czechoslovakia	71,245	6,220	35	372	77,872	62,069
Switzerland	36,340	15,586	184	11	52,121	44,379
Finland	41,676	2,109	242	1	44,028	35,659
Latvia	23,044	2,442	1,017	139	26,642	903
Russia	25,227	32	29	—	25,288	22,955
Canada	3,442	18,403	—	—	21,845	36,092
Bulgaria	19,900	297	4	15	20,216	6,641
Australia	14,135	1,665	50	—	15,851	11,699
Yugoslavia	18,506	615	—	—	19,121	27,134
Hungary	3,801	5,610	2	—	9,413	—
India and Far East	4,973	4,043	79	—	9,095	10,037
Egypt	3,566	3,408	79	—	7,053	3,140
Aden	5,373	1,241	64	—	6,678	5,845
Esthonia	2,648	247	10	—	2,905	2,657
Ceylon	1,929	924	30	—	2,883	3,340
Hejaz	1,589	14	—	—	1,603	977
Port Sudan	500	30	—	—	530	1,132
Turkey & Greece	420	26	—	—	446	289
Syria	334	77	—	—	411	651
Italy	—	400	—	—	400	—
East Africa	235	60	—	—	295	—
Lithuania	189	39	—	—	228	433
Malta	28	12	—	—	40	150
Beira	—	—	—	—	—	90
Portugal	—	—	—	—	—	15
GRAND TOTAL	4,997,302	850,120½	46,915	2,973	5,897,310½	7,330,846

APPENDIX B.

CITRUS FRUIT ADVERTISING 1935/36 SEASON.

	Distribution of advertising Fund in 1935-36
Debit Balance at the end of 1934/35	5,455.—
United Kingdom	10,532.—
Holland	1,000.—
France	600.—
Roumania	500.—
Poland	1,567.—
Belgium	700.—
Sweden	450.—
Norway	400.—
Czechoslovakia	600.—
Switzerland	500.—
Canada	645.—
Finland	200.—
Yugoslavia	100.—
Austria	200.—
India, Far East & Ceylon	750.—
Latvia	100.—
Lithuania	50.—
Palestine	543.—
Departmental charges and Sundries	200.—
Total	£P.25,092.—
Fees collected	17,692.—
Debit Balance	7.400.—

APPENDIX C.

NUMBER OF TREES AND VINES DISTRIBUTED AND SOLD FROM HORTICULTURAL STATIONS DURING 1935/36.

	Free Distribution					Sold	GRAND TOTAL
	Experimental Stations	Military & Police Posts	Schools	Public	Total		
Citrus Seedlings	4,147	—	—	—	4,147	17,794	21,941
Citrus Budded	4,123	—	—	—	4,123	509	4,632
Fruit Trees	13,348	471	1,182	55	15,056	25,734	40,790
Vines	6,889	200	4,555	720	12,364	52,566	64,930

LIST OF PLANTS RAISED AND DISTRIBUTED AT EACH STATION DURING 1935/36.

Kind of Trees	Plants Raised								Plants Distributed								
	Sarafand	Nablus	Jericho	Jerusalem	Acre	Farradiya	Majdal	Total	Sarafand	Nablus	Jericho	Jerusalem	Acre	Farradiya	Majdal	Beisan	Total
Vines	—	—	—	—	74321	2635	–	76956	6889	874	444	8141	35163	2635	5641	1150	60937
Apples	—	1709	—	349	9091	1062	593	12804	827	1663	—	3316	5314	945	291	128	12484
Pears	—	631	—	292	2815	547	348	4633	260	631	—	1693	1764	547	27	—	4922
Quinces	—	195	—	—	—	—	87	282	—	164	—	—	—	—	6	—	170
Plums	—	828	—	770	4758	252	1289	7897	648	733	—	1559	1758	252	300	49	5299
Peaches	—	358	—	837	1020	165	135	2515	105	348	—	1220	576	165	55	–	2469
Apricots	—	564	—	287	273	272	1326	2722	—	564	—	881	131	272	370	—	2218
Almonds	—	58	—	44	12	75	915	1104	–	24	—	58	—	25	226	—	333
Cherries	—	424	—	92	624	233	216	1407	—	228	—	572	315	233	—	—	1348
Olives	—	513	—	254	175	—	578	1520	85	488	—	413	80	—	434	—	1500
Figs	—	50	—	—	554	—	—	704	67	15	—	139	171	—	—	—	392
Pomegranates	—	105	2125	—	—	–	—	2230	121	80	1131	78	—	—	—	80	1490
Loquats	20	—	—	—	—	—	37	57	20	—	—	—	—	—	4	—	24
Walnuts	—	476	—	516	917	10	—	1919	65	446	—	383	61	10	—	36	1001
Pecans	—	166	—	—	35	—	—	201	—	10	—	—	—	—	—	—	10
Mulberries	—	320	—	—	—	—	—	220	320	–	—	—	—	—	—	—	320
Annonas	34	—	155	—	—	—	—	189	20	—	80	—	—	—	—	—	100
Mangoes	20	—	—	—	–	—	—	20	10	—	—	—	—	—	—	—	10
Papayas	—	—	2000	—	—	—	—	2000	—	—	759	—	—	—	—	—	759
Granadillas	—	—	50	—	—	—	—	50	—	—	15	—	—	—	—	—	15
Guavas	—	—	—	—	250	—	—	250	—	—	—	—	170	—	—	20	190
Avocados	—	—	—	–	100	—	—	100	—	—	—	—	15	—	—	—	15
Carobs	—	—	70	—	—	—	—	70	—	—	20	30	—	—	—	—	50
Citrus Seedlings	—	—	—	—	21941	—	2827	24768	—	—	—	—	17794	—	2000	—	19794
Citrus Budded	—	—	—	—	3626	—	—	3626	—	—	—	—	509	—	—	—	509

APPENDIX E.

SEEDLINGS PLANTED IN 1935/36 FOR BUDDING DURING 1936/37.

Name of Stock	Sarafand	Nablus	'Ein 'Arrub	Farwana	Farradiya	Acre	Majdal	Total
Doucin	7	2000	3000	—	2000	21000	2000	30007
Malus communis	19	500	1400	—	500	12000	500	14919
Khashabi	7	2000	1200	—	4000	10000	1500	18707
East Malling No. 12	—	—	200	—	—	2000	—	2200
" " " 16	—	—	200	—	—	—	—	200
Pyrus communis	12	500	1200	—	500	7000	500	9712
Cydonia vulgaris	40	—	800	—	1000	15000	2000	18840
Pyrus syriaca	—	—	200	—	—	—	—	200
Craetagus azarolus	—	—	200	—	—	—	1750	1950
Almond	6000	—	6000	—	—	—	2500	14500
Apricot	5000	—	2000	—	6460	—	1700	15160
Peach	1010	—	1000	—	1836	—	—	3846
Myrobolan	10	1000	—	—	—	3000	1000	5010
Karrassia	1000	—	—	—	1000	2000	250	4250
Sweda	—	—	1000	—	1000	2000	—	4000
Common Mussel	7	—	—	—	—	—	—	7
Pershore	15	—	—	—	—	—	—	15
Brompton	12	—	—	—	—	—	—	12
Damas C.	6	—	—	—	—	—	—	6
Prunus Davidiana	12	—	—	—	—	—	—	12
Mahaleb	12	250	800	—	—	2000	—	3062
Mazzard	7	—	—	—	—	—	—	7
Olive	2500	—	450	—	—	—	2000	9000
Walnut	200	—	150	—	—	—	—	350
Pecan	250	—	—	—	—	—	—	260
Pistacia vera	10	—	—	—	—	—	—	10
Pomegranate	120	—	—	—	—	—	—	120
Loquat	650	—	—	—	—	—	—	650
Figs	110	—	—	—	—	—	—	110
Mulberry	250	—	150	30000	—	14000	250	44650
Carob	500	—	—	—	—	—	—	500
Annona	50	—	—	—	—	—	—	50
Avocado	120	—	—	—	—	—	—	120
Persimmon	300	—	—	—	—	—	—	300
Guava	320	—	—	—	—	—	—	320
Bigaradia	700	—	—	—	—	—	—	700
Sweet Lime	300	—	—	—	—	—	—	300
Rough Lemon	1700	—	—	—	—	—	—	1700
Trifoliate orange	180	—	—	—	—	—	—	180

APPENDIX F.

DEMONSTRATION PLOTS, 1936.

OLIVES.

1. *Rejuvenation.*

(a) Reina — near Nazareth on the Tiberias main road.

(b) Ya'bad — near Jenin, north-west of Arraba on the Nablus Road.

2. *Top Working.*

(a) Hulda — near Wadi Sarar Railway Station (Lydda-Jerusalem line)

3. *Effect of Fertilizers on Quality of Oil.*

(a) Qalunya (Motza) — on Jerusalem-Jaffa Road.

4. *Effect of Fertilizers on Yield.*

(a) Beit Jala — on the road west of Beit Jala town.

VINES.

1. *Phylloxera Districts.*

(a) Safsaf — North of Farradiya (about 12 kms.).

(b) Ramallah — on Jerusalem-Ramallah road at kilo 14.

(c) Ramallah Broadcasting Station.

2. *Effect of Fertilizers on Yield.*

(a) Hebron — on the Hebron-Beit Jibrin road.

VINEYARDS.

(a) Tarshiha — on the Acre-Kabri-Tarshiha Road.

(b) Silat el Harithiya on the Jenin-Haifa road. (Meggido).

DECIDUOUS FRUIT TREES.

Pruning, Spraying and Manuring.

(a) Ramat Rahel — behind Talpioth Quarter, Jerusalem.

Variety Plots.

(a) Reina — near Nazareth on the Tiberias main road.

(b) Silat el Harithiya on the Jenin-Haifa road. (Meggido).

(c) Salfit — East of Khan Lubban on the Jerusalem-Nablus road.

(d) Zakariya — on the Bab el Wad — Beit Jibrin road.

(e) Lubya — on the Nazareth-Tiberias road.

(f) Mujeidal — on the Nazareth-Haifa road.

(g) Deir-el-Balah — on the Gaza-Khan Yunes road.

(h) 'Arraba — on the Jenin-Nablus road.

(i) Deir Sharaf — at the crossing of the Jenin-Nablus and Jenin-Tulkarm road.

(j) Sinjil — on the Jerusalem-Nablus road.

(k) Bira " " " "

(l) Huwwara " " " "

(m) Qubab — on Jaffa-Jerusalem road.

Beersheba Plantations.

(a) Umm Sira — road to El 'Imara.

(b) Abu Zweiqa — road to Jammama.

(c) Et Talla' — road to Gaza.

(d) Tall el Malih — road to Dead Sea.

Date Centre.

(a) Kinnereth — at the crossing of the roads to Samakh and Yavneel.

APPENDIX G.

STATEMENT OF EXPENDITURE.
(FINANCIAL YEAR 1935/36).

Item		Horticulture and Fruit Inspection	Sericulture
	Personal Emoluments (Classified Staff)	4,442.553	... 432.—
14	Messengers & Cleaners	36.—	
45	Nurserymen	393.636	
46	Gardeners	1,575.576	
51	Assistant Fruit Inspectors	676.004	
52	" " "	432.—	
53	Packing Inspectors	1,167.550	
	Other Charges.		
136	Transport & Travelling	1,999.556	... 128.938
137	Railway Fares & Freights	750.—	... 20.—
138	Telephone, Telegrams & Postage	800.—	... 10.—
139	Lighting & Heating	17.915	
140	Uniforms	49.513	
142	Forage	197.752	
184	Horticultural Demonstrations & Experiments ...	798.854	
185	Introduction of New Seeds & Plants	101.530	
186	Upkeep of Horticultural Stations	3,248.565	
187	Fruit Tree Nurseries	2,016.268	
188	Upkeep of Govt. Citrus Demonstration Stations	1,390.692	
189	Fruit Inspection Service	5,486.500	
191	Propagation of Mulberry Trees	—	... 280.948
192	Sericultural Materials, Prizes, etc.	—	... 42.834
	Special Expenditures.		
212	Draught Animals, carts & Harnesses	110.—	
215	Purchase of sites for Agri. & Hort. Stations ...	224.767	
248	Grant for Citrus Research, etc.	3,000.—	
249	Grant to Jewish Agency Expt., Fruit Growing etc.	300.—	
246	Purchase of Sericultural Equipment	—	... 20.138
273	Purchase of Olive Picking Combs	100.—	
274	Supply of Sapplings to Samaria village	624.878	
	Establishment of Horticultural Station (Farwana)	74.494	
	Attendance of Palestine Rep. at XIth Int. Hort. Congress	56.809	
	Total	£P.30,071.403	£P.935.858

APPENDIX H.

STATEMENT OF REVENUE COLLECTED DURING 1935/36.

	L.P. Mils	L.P. Mils
Horticulture.		
Nursery Registration and Licence Fees	7.000	
Sale of Nursery Produce	1,009.858	
		1,016.858
Fruit Inspection Service.		
Inspection fees	9,488.253	
Fees for repacking, storage, and inspection of groves before export date.	350.730	
		9,838.983

REPORT OF THE GOVERNMENT ENTOMOLOGIST FOR THE YEAR 1ST APRIL, 1935 TO 31ST MARCH, 1936.

General.

The year 1935/36 was characterized entomologically by four outstanding events. These were the great increase of Mediterranean Fruit Fly (*Ceratitis capitata*) all over the country, a very widespread attack of *Myiopardalis pardalina* on sweet melons, the production of an extra generation in the Black Scale population in Acre Sub-District, and finally the attempt of *Locusta migratoria* (ph. *solitaria*) to assume ph. *gregaria*.

Great as was the damage done by *Myiopardalis* (which had not been seen in pest condition for same 16 years) it was overshowed by the widespread harm to the citrus crop caused by *Ceratitis*.

In the 1934/35 season, the *Ceratitis* attack was unusually heavy but in 1935/36 it assumed alarming proportions in all parts of the country including the Jordan Valley.

Investigation and Research.

As the intensive study of the Black Scale (*Chrysomphalus ficus*) has reached a stage when it can be relaxed, attention has now been concentrated on *Ceratitis* which is being studied in the Emek, the Southern District and the Jordan Valley. It is no exaggeration to say that at the moment it is the citrus pest with the greatest claims to our attention. The percentage of fruit rejected by fruit inspection at the ports owing to fruit fly was 21.3% of the total rejections from all causes.

Some difficulty attended the search for a manufacturer of trapping bottles for fruit fly control. The search has now been brought to a successful conclusion through the assistance of the Department of Overseas Trade, and an inexpensive and unlimited supply is assured. Trapping is preferred to spraying in those settlements where it has been tried and any attempt at control made. At present, the use of trapping bottles is based on empirical knowledge and they can only be put to really effective use when the habits of the Mediterranean fruit fly in Palestine are throughly understood.

The extra generation of Black Scale in Acre Sub-District was one of the main causes of a heavy infestation of the fruit before the fumigation gangs reached the later fumigated groves. It is hoped that the arrangements made this coming season founded on the study of the Black Scale will enable all fumigation to be completed before the infestation of the fruit begins.

Both *Myiopardalis* and *Ceratitis* effected a surprise as *Ceratitis* had rightly never been regarded as a major pest of citrus. (There is little doubt that it will be so in the future). *Myiopardalis pardalina* has never before been recorded as a pest in Palestine. The general increase amongst the grasshoppers including the attempted outbreak of *Locusta migratoria* would have been of great interest had it been possible to divert an officer to study it. Unfortunately this was impossible owing to the claims of routine and pressing research work which had to receive attention.

CAPNODIS SPP.

Capnodis spp. the root borers of stone fruit.

Investigation into the bionomics and control are proceeding. The Jerusalem Horticultural Station has been transferred to the Entomological Service for the purpose of studying chemical or mechanical methods of control and land is to be acquired for research into the factors affecting stock resistance.

Empoasca benedettoi.

The bionomics of this insect and its connection with virus infection of the potato and eggplant is being studied at the Field Laboratory at Acre.

VEGETABLES.

Work on the pests of vegetables is being continued particularly in the direction of finding suitable non-arsenical insecticides which can be recommended for general use. The problem of arsenical residue after control measures against *Polychrosis* and Codling moth is also being studied.

LEGISLATION.

The Plant Protection (Nursery) Rules (1934) which are published under the Plant Protection Ordinance were enforced this year for the first time under the direction of the Horticultural Service.

Details regarding plant imports and exports are given in Appendix A and legislation passed during the year in Appendix B.

PLANT QUARANTINE.

In the present year, oranges and other citrus fruit were permitted to be sent from North to South subject to their passing the standard required for export. The investigations which have been recently carried out and the enforcement of the Nursery Rules (1934) make the utility of the continuance of internal quarantine posts more than doubtful.

FIELD WORK.

The survey of Mussel Scale (*Lepidosaphis beckii*) which is in progress reveals how wide spread the incidence of this pest is.

Considerable progress has been made in the policy of training citrus growers to the realization of the necessity for carrying out pest control themselves and there has been a gratifying and notable increase in the amount of fumigation performed.

The Jaffa orange growers in the Black Scale infected area asked to be allowed to spray instead of fumigate. This they were permitted to do as no argument would persuade them of the superiority of fumigation.

E. BALLARD.
Government Entomologist.

RETURN OF PLANT INSPECTION AND CONFISCATION DURING THE YEAR ENDING MARCH 31ST 1936.

Station	1935																		1936					
	April		May		June		July		August		September		October		November		December		January		February		March	
	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf	Insp	Conf
Jerusalem	106	—	67	—	—	—	—	—	—	—	14	—	28	—	2	—	19	—	59	—	64	—	92	1
Jaffa	221	6	165	2	157	7	170	—	222	—	279	2	384	-	195	—	242	—	295	1	243	10	396	12
Jenin	9	36	29	11	8	16	14	29	19	26	15	19	3	11	2	9	3	10	8	10	6	12	—	18
Haifa	278	18	154	7	168	7	134	5	124	—	162	—	220	—	289	29	221	—	182	—	232	—	256	—
Acre	—	—	—	—	—	—	2	—	7	—	3	5	3	3	—	—	—	—	—	—	—	—	—	—
Ras en Naqura	106	—	163	—	200	1	288	—	191	6	240	8	176	4	130	1	100	3	33	9	58	3	88	—
Rosh Pinna	125	6	84	8	136	11	135	2	210	4	278	10	264	12	160	1	99	5	86	9	87	2	122	5
Zikhron Ya'aqov	—	33	—	26	—	20	—	12	—	5	—	15	1	18	1	12	1	—	—	—	—	—	—	—
Total	845	99	662	54	669	67	743	48	773	41	991	59	1079	48	779	52	685	18	663	29	690	27	954	36

Total Inspected 9,533
Total Confiscated 573

Appendix B.

REGULATIONS AND AMENDMENTS TO PLANT PROTECTION ORDINANCE PUBLISHED 1935 — 1936.

Title	Date	Purpose
Order No. 76 of 1935.	P.G.502—4.4.35	Amending Order No. 3 of 1934.
Citrus Fruit Transport Rules, 1935.	P.G.506—25.4.36	Permitting the transport of citrus fruit from North to South subject to certain conditions.
Plant Protection (Citrus groves fumigation) Rules 1934-35	P.G.524—11.7.35	Providing for cost of fumigation of citrus groves and costs of felling and pruning.
Plant Protection Ordinance (No. 2, 1934) Amendment Order No. 129 of 1935.	P.G.538—14.9.35	Amending the list of prohibited plants and those permitted import and providing for the import of seed potatoes.
Order No. 147 of 1935.	P.G.546—24.10.35	Amendment to Plant Protection Order No.2 of 1934 Amendment Order 1935.

GENERAL AGRICULTURAL COUNCIL.

REPORT FOR THE YEAR ENDING 31ST MARCH, 1936.

The membership of the Council during the year under review consisted of :—

CHAIRMAN: Mr. M. T. Dawe, O.B.E., F.L.S.,
Director of Agriculture and Forests.

MEMBERS: Mr. F. J. Tear,
Deputy Director of Agriculture and Forests.
Mr. A. F. Nathan, O.B.E.,
Registrar of Cooperative Societies.
Jamil Eff. Shawa.
Abdulrahim Eff. Nabulsi, M.B.E.
Nicola Eff. Gelat.
Sheikh Mustafa Eff. El-Kheiri.
Rafi' Bey Fahoum.
Sheikh Khalil El-Azzeh.
Dr. J. Kligler.
Mr. H. Viteles.
Dr. M. B. Hexter.
Mr. Y. Elazari-Volcani, M.B.E.
Mr. H. Wolfson.
Mr. M. Smilansky, M.B.E.
Mr. A. P. S. Clark, M.B.E.
Mr. G. Wagner.
Father A. Sacchetti.

SECRETARY: Mr. M. Brown, M.B.E.

Altogether, there are 141 members on the Council and its nine Committees for Agricultural Economics and Marketing, Citrus Fruits, Agronomy, Horticulture, Animal Husbandry, Irrigation, Agricultural Education, Agricultural Chemistry, and Plant Protection.

The Council held nine meetings, during which it examined, inter alia, the reports and recommendations of the various Committees and Sub-Committees. A great deal of valuable work was done by the Sub-Committees, particularly those appointed to deal with the Rural Property Tax Ordinance, customs duties on eggs and poultry, the higher duty on tomatoes, the transport of citrus, and the supply of organic manure.

Rural Property Tax Ordinance.

The Sub-Committee which was appointed to consider the working of the Rural Property Tax Ordinance held four meetings. Its report was thoroughly examined by the Council whose recommendations have been submitted to Government.

Organic Manure.

The Sub-Committee on Organic Manure completed its examination of this important subject after eight meetings during which evidence was taken from farmers in different parts of the country. The Council's recommendations on this report were submitted to Government. Arising out of one of its recommendations, the Sanitary Surveyor of the Haifa Municipality visited Egypt to obtain data on the making of compost from town refuse, for utilisation as manure.

Poultry and Eggs.

In order to stimulate the development of poultry production, a Sub-Committee was appointed to ascertain the methods and costs of poultry production. This Sub-Committee held ten meetings. Among other proposals, its major recommendations as to increasing the customs duty on eggs and imposing a duty on poultry were endorsed by the Council. These recommendations are now receiving the consideration of Government and the Standing Committee for Commerce and Industry.

Import Duty on Prepared Wood for Citrus Cases and Drawbacks.

A joint Sub-Committee of the Standing Committee for Commerce and Industry and the General Agricultural Council has been appointed to investigate and report upon a scheme prepared by the Department of Customs to facilitate the local preparation of timber for citrus cases and the grant of drawbacks on the export of boxes.

Marking of Eggs.

The Council's recommendation to introduce legislation requiring all imported eggs to be marked with the country of origin was given effect on the 16th February, 1936. The object is to enable the purchaser to distinguish between fresh local eggs and imported eggs and to maintain the higher price of the local fresh egg.

Poultry Feeding Stuffs.

The recommendation of the Council to abolish the duty on meat and fish meals in order to cheapen the cost of poultry feed was approved on the 16th April, 1935.

Tomato Growing.

The cost of producing tomatoes was studied by the Committee on Agricultural Economics and Marketing in order to support a recommendation that the customs duties on imported tomatoes should be increased in the interests of the local grower. This was necessary in view of the removal of the embargo on the import of tomatoes on phytosanitary grounds, on the 5th September, 1935, and in order to encourage the further expansion of this crop. The recommendation was endorsed by the Council and on the 25th March, 1936, Government increased the duty from £P.2 to £P.4 per ton.

Village Roads.

The Council made various recommendations to Government with the object of facilitating the construction of village roads and Government enacted legislation on the 18th May, 1936, giving effect, in part, to the Council's recommendations. Government proposes later to replace the present legislation and amendments, by a consolidating Ordinance.

Seed Farms.

The proposal of the Agronomy Committee that landowners might cooperate with the Department of Agriculture in order to propagate improved seed issued from Government seed farms, on their own land, has been put into effect. Seed farms covering about 2,000 dunams were so established in 1935/36, and in this way, larger quantities of improved seed will be made available each year for distribution to growers throughout the country.

The Citrus Industry.

The problems of the Citrus Industry — various and manifold — continued to receive the constant attention of the Citrus Fruit Committee and the Citrus Fruit Advertising Committee.

The advertising fee was increased on 1st October, 1935, from 2 mils to 3 mils per box, in order to provide more funds for more extensive and effective advertising. Trial shipments of standard boxes were made and the Citrus Export Regulations were amended and codified.

The Citrus Fruit Committee also considered proposals for the control of Mediterranean Fruit Fly and Red Scale.

Special arrangements were made for the Citrus Fruit Committee to discuss with Dr. R. S. Tomkins of the Low Temperature Research Station, Cambridge, the possibilities of fruit storage, and the prevention of wastage of fruit in transit.

A Sub-Committee was appointed to consider proposals and make recommendations concerning the development of the citrus by-products industry. The Committee also considered proposals for participating in an advertising campaign to increase the sale of citrus juice in the United Kingdom and on the Continent.

During the year, the Chairman of the Citrus Fruit Committee, with the help of members of that Committee, compiled and circulated a useful table showing the customs duties, quotas, currency and other regulations in force in foreign countries to which Palestine citrus fruit is shipped.

The Citrus Fruit Committee also advised Government throughout the year concerning Trade Agreements affecting the sale of citrus fruits in Poland, Roumania, Irish Free State, France, Austria and Switzerland, etc.

Citrus Transportation and Marketing.

The Citrus Transportation and Marketing Committee, which was appointed to study the present methods of transportation of the citrus crop from the groves to the ports of destination and of marketing generally and to make recommendations for the improvement thereof, appointed 2 Sub-Committees for Transport and for Marketing. The first Sub-Committee held 12 meetings and submitted its Interim Report on Transport. Certain important matters dealt with in that report in regard to Shipping and proposals for the formation of an Export Control Board, were deferred for further examination by the Sub-Committee on Marketing.

Potato Growing.

Potato growing has expanded satisfactorily consequent upon the Council's recommendation which was approved by Government in 1934 to increase the duty from £P.1 to £P.3 per ton during the main harvesting season (1st April — 15th July). On the 16th September, 1935, seed potatoes were added to the schedule of commodities which may be imported free of customs duties ; and regulations were published on the 5th September, 1935, prescribing the

conditions under which such seed potatoes may be imported under the Plant Protection Ordinance, 1924, with a view to ensuring that only seed of assured quality, origin and type, and free of disease, is introduced.

Bovine Tuberculosis.

Consequent upon the recommendations of the Council, Government approved financial provision for a test survey of the incidence of tuberculosis in cattle, prior to introducing a comprehensive scheme of control.

Agricultural Education.

The Committee on Agricultural Education considered proposals for the classification of Agricultural Schools in Palestine and bringing about some uniformity in the syllabi, curricula, and examination standards for the schools so classified. These proposals are still under consideration.

Other Matters.

Other matters dealt with by the Council during the year included :—

Proposals for the re-establishment of the Analytical Service in the Department of Agriculture and Fisheries.

The preparation of an Ordinance for the control of animal feeding stuffs exposed for sale.

A proposal to limit further planting of citrus.

Trade Delegation to Egypt.

Revision of the Palestine-Syria Customs Agreement, 1929.

Proposals to increase exports of agricultural products from Palestine, e.g. Clearing House, Quotas, and Differential Duties.

The provision of more grain cleaning machines.

The export of "oversized" oranges to Egypt.

Exemption of vehicles used for agricultural purposes from payment of licence fees.

(Sgd.) M. BROWN
Secretary,
General Agricultural Council.

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